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ABSTRACT

This evaluation report is based on several types of data collected during the 1978-79 school year for the Television Reading Program (TVRP), a supplemental reading instruction project which is based on commercial television programs aired at prime time--scripts of TV programs with high popular appeal for youth serve as the basis for instructional activities designed to enhance reading achievement in upper elementary through lower high school grades. The effects of the program on reading achievement were assessed through an objective referenced test constructed by the California Test Bureau, and through standardized norm referenced tests which were routinely used by several of the districts. Student motivation was assessed through self report data provided by a reading questionnaire and through observation of TVRP and non-TVRP classes using an instrument specifically designed for reading achievement. Evaluations of three of the seven lessons by TVRP teachers suggest that materials are popular, fill a need, and depend on the actual script used for their appeal. Evidence also suggests that the TVRP enhances specific reading achievement skills, results in improved classroom behaviors, and constitutes a useful set of supplemental materials.
(Author/JEG)

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# AN EVALUATION OF THE TELEVISION READING PROJECT

## FINAL REPORT

Prepared by

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Project Period: September 15, 1978 - October 31, 1979
Report Period: September 15, 1978 - October 31, 1979

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## Abstract

The Television Reading Program (TVRP) is a supplemental reading instruction project which is based upon commercial television programs aired at prime time. Scripts of TV programs with high popular appeal for youth serve as the basis for instructional activities designed to enhance reading achievement in upper elementary through lower high school grades. This document is an evaluation report based upon several types of data collected during the 1978-1979 school year.

The evaluation was conducted by the Center for Education Research and Evaluation of The Pennsylvania State University and addressed the following questions. What effect does the TVRP have upon reading achievement? Is student motivation and behavior enhanced by using the Program? Do teachers view the Program materials as beneficial and do they use them constructively?

School districts in six sites, including Chicago, Dallas, Minneapolis, and Pinellas County, Florida, agreed to use the TVRP materials and to provide specific evaluation data. Site coordinators were selected and provided excellent service, considering the personal rewards.

In all cases, a set of teachers who did not use the TVRP was identified to serve as a control. In one site, TVRP and Non-TVRP teachers were randomly selected from all volunteers. In two other sites, a carefully matched sample of non-volunteers was drawn. Since teachers were sampled, classroom mean scores were used as the unit of analysis.

To estimate the effect on reading achievement, four of the sites provided access to appropriate reading test scores from standardized norm-referenced tests used as part of their regular district testing program. Three of the sites, including Minneapolis and Chicago agreed to administer an objective-referenced test constructed by the California Test Bureau. The TVRP group scored 10% higher than the group using their district program on the latter test and seven of its nine subscales. No differences were observed on the norm-referenced tests. The TVRP clearly enhanced the reading achievement skills it was designed to address.

Student motivation was assessed through self-report data provided on a reading questionnaire and through observation of TVRP and Non-TVRP classes using an instrument specifically designed for reading achievement. The findings of the self-report data suggest equality between TVRP and Non-TVRP classes. Data gathered by trained observers, however, suggest strong differences favoring the TVRP group. For example, a higher frequency of interaction between teacher and student was observed in TVRP classes compared with Non-TVRP classes. Given the history of errors documented in teacher judgment, the results suggest strong effects in desired directions favoring the TVRP group.

TVRP teachers completed evaluations of three of the seven lessons. From these evaluations, modest evidence emerged to suggest that the materials 1) are popular, 2) fill a need, and 3) depend upon the actual script used for appeal. Also noted were some geographic and grade level preferences for script choice. Some concerns centered around prompt delivery of lesson materials, editorial errors, and match between readability and class reading levels.

The evidence suggests that the TVRP enhances specific reading achievement skills, results in improved classroom behaviors, and constitutes a useful set of supplemental materials that address reading achievement, a major problem in today's schools.

Chapter I
Project Overview
History and Origin of the Television Reading Program

Poor reading skills are a source of great concern among educators and educational researchers. While theorists debate the precise nature of the reading process (e.g. Smith, 1971, Gleitman, 1977), classroom teachers face large numbers of students whose reading problems increase in geometric proportion with age. Although the exact cognitive skills involved in fluent reading have not been unequivocally defined, it is clear that "practice makes perfect". The more one reads, the better reader one becomes. The problem of getting the student involved with printed information is considered by most teachers to be highly formidable. If reading is difficult, it will be avoided rather than sought. The poor reader has at least two types of problems: poor skills and poor motivation.

With the guidance of an experienced high school English teacher, Capital Cities Communications Inc. (CCC) produced a supplementery reading instruction program which is designed to remedy the first problem (poor skills) by attacking the second problem (motivation). Because television programs are a main source of interest to young people, working scripts from current popular television shows, broadcast at eight or nine o'clock in the evening, were obtained from network studios and were duplicated for individual students to use as reading text. A curriculum development team made up of experienced and credentialed teachers used the script as a basis for writing skill-building exercises which exploit the unique vocabulary and structure of the script. The initial responses to those materials have been extremely encouraging. Teachers reported that students who would not read other materials were enthusiastically reading and understanding the scripts.

Although this approach to reading was widely recognized as innovative, its value as an instructional device was yet to be determined. Instructional

effectiveness can be defined on a number of dimensions (Stake,1967 ). Therefore, reading achievement test scores (for both vocabulary and comprehension skills), student attitude toward reading, class attendance, and teacher perception of classroom behavior, as well as teacher and parent opinion of the program materials were examined to determine the value of the TVRP as an instructional tool. This evaluation was conducted under the auspices of the Center for Education Research and Evaluation (CERE) of The Pennsylvania State University and was carried out in two phases: the Phase I sample consisted of three large metropolitan sites and a suburban site which were all located in the East; Phase II sampled urban and rural sites in several different geographic regions. The evaluation in both phases centered on the following questions.

1. Does use of the Television Reading Program result in differences in reading achievement, defined as performance on reading skills tests?
2. Does use of the Television Reading Program result in an increase in positive instructional events, such as improved attendance, increased attention to instruction, and greater interest in reading?
3. Do the materials meet the instructional needs of the teachers and do they appear appropriate to parents?

In both phases, the effects of the Television Reading Program were assessed with comparative data from classes who used the materials and classes who did not use them. An evaluation based on this design is stronger than one based entirely on descriptive data.

The Television Reading Program (TVRP) consists of printed scripts from commercially broadcast TV programs and correlated exercises designed to improve language skills. The scripts are selected jointly by CCC and the network involved, in part for their high appeal for youth. The exercises are written specifically for the script. Script selection and exercise development take place approximately one month prior to program airing, and nine such script-exercise packages are available for instructional use, one per month. These materials are mailed to

classroom teachers in sufficient quantities for each student to have a workbook for personal use. A Teachers' Guide accompanies the student workbook and suggests additional activities. The teacher then selects the activities which seem most appropriate for use in the classroom. It is important to note that the TVRP materials evaluated are designed to supplement not replace the reading instruction currently used in the schools.

## Phase I Evaluation

During the 1977-78 school year, teachers in Philadelphia, New York, Washington D.C. and Montgomery County, Pa. agreed to use the materials and to provide data for program evaluation which was consistent with the three major questions listed above. Approximately 15,000 students in grades four through eight participated in the evaluation. All teachers were asked to cooperate in furnishing the evaluators with data on reading achievement, classroom behavior, and the relevance of the TVRP materials to their basic instruction.

### Assessment of Reading Achievement Differences

To determine the effect of program use on the development of reading skills, mean vocabulary and comprehension scores from norm-referenced standardized achievement tests were compared for classes who used the materials in addition to their regular instruction with classes who followed their normal instructional program. Significant performance differences were found for the New York sixth grade classes and the Montgomery County fifth grade classes only. In both cases, students using the program materials scored higher than the comparison students.

In addition a 32 item objective-referenced test was developed from the bank of items maintained by McGraw-Hill Publishing Company. The items were selected to reflect the specific instructional objectives served by the TVRP skill exercises. It was anticipated that such a measure would be more sensitive to specific instructional effects than a standardized test. This test was

administered in Philadelphia to random sample of ten TVRP classes and ten Non-TVRP classes in grade six. The TVRP classes scored higher than the comparison group on all subscales and the total score. However, due to the small number of data points, most differences were not significant.

Assessment of Behavioral Differences

To determine if program use had an effect on student involvement and interest in instruction, three types of data were solicited from each participating class. Students were asked to complete a questionnaire on general interest in reading and teachers were asked to keep records of attendance as well as to complete a questionnaire asking estimates of disruptive and attentive behavior during reading instruction. Both TVRP and Non-TVRP classes were asked to provide this data. The behaviors of interest were disruptive behavior during reading instruction, lack of attention, student success with instructional materials, and active interest in finding other related materials. The two groups of students showed no differences in attitude toward reading. However, TVRP classes had higher attendance at all grade levels and at all sites than the Non-TVRP classes. Teacher estimates of attentiveness and success with the instructional materials were greater for the TVRP classes than for the comparison groups. TVRP classes were, however, less likely to seek additional related materials than the comparison groups. All differences were statistically significant. In some cases, however, the absolute differences were relatively small.

Assessment of Material Relevence

Both teachers and parents were asked to express opinions about the value of the program materials for reading instruction. Teachers were asked to complete two questionnaires during the year. Each questionnaire asked which of the suggested exercises and activities were used, how the teachers felt about the choice of the particular script, and how their students responded to the materials.

A high percentage of teachers (80%) felt that television programs should be intergrated into instruction particularly because the parents were more easily involved in the instruction due to the broadcast television component. Use of the script before program viewing was considered an attractive feature of the TVRP and the reading level of the scripts was considered appropriate for all grade levels. Nearly all classes read and discussed the scripts. The exercises used most frequently were those which involved word structure or word meaning. The average proportion of reading instruction time devoted to the TVRP was 28%.

Parents were asked to complete a post card questionnaire which asked if their children liked the program and if they felt that the program material used should be continued. Parents were highly in favor of continued use of the program for their children and felt that the materials were of high interest value.

Recommendations For Program Improvement

Based on the results of the Phase I evaluation analyses, CERE recommended to CCC that the objective-referenced test of reading skill achievement be used with a larger sample of students so that adequate power would be available to detect instructional effects. It was also recommended, based on teacher comments, that the program choice be based on appeal to the student and that special preference be given to programs with minority representation. Suburban teachers were somewhat less enthusiastic about materials than were the urban teachers. It was recommended that more information be sought from such systems so that the appeal of the materials could be improved. Junior high teachers used the materials less than the intermediate grade teachers, and it was recommended that further research be conducted to determine if the program materials were not well suited for students at that level or if the teachers were more restricted than the intermediate teachers by curriculum demands. It was also recommended that

evaluation research be expanded to include other geographic regions to determine if the appeal of the program was as great nation-wide as it was in the East, where 84% of the teachers wished to continue using the materials.

## Phase II Evaluation

A second research project was carried out during the 1978-79 school year which replicated some of the data collection of Phase I. In response to the recommendations and findings of the first phase, school districts were selected from several geographic regions in the U.S., the objective-referenced test was administered to a large sample of classes in two sites, and the comparison group of teachers were either randomly selected from all volunteers or matched to the TVRP teachers on the basis of several demographic variables. These changes in the research design were made to improve the generalizability of the findings about program effects. Additional changes were suggested in the communication network to insure the receipt of data from the school officals involved. The results of Phase II are contained in the remainder of this report. What follows is an overview of Phase II.

The goals of the second phase of the evaluation were (1) to provide an extensive description of the schools, teachers and students who used the materials as well as the materials themselves, (2) to assess the effects of program use on reading skill development (3) to assess the effects of program use on classroom events, and (4) to obtain teacher opinion of materials with respect to instructional value.

To provide a demographic characterization of the sample, each participating school system was asked to provide the following information: (1) The proportion of minority students in each participating class, (2) The proportion of families who qualified for free lunch (a socio-economic index), (3) The number of students reading below grade level and (4) Teacher experience.

To provide a description of the TVRP materials, a content analysis was

completed which categorized the exercises accompanying the script according to process and content, that is, the general cognitive activity required to complete the exercise (e.g. recall, inference) and the language skill area involved (e.g. synonyms, paragraph comprehension). This analysis identified the skills most likely to be enhanced by the use of the materials. In addition, a readability measure was calculated on the scripts themselves.

Assessment of Reading Achievement Differences

The second component of the evaluation made use of two types of instruments to estimate the instructional effect of program use. Vocabulary and reading comprehension test scores on norm-referenced standardized tests routinely administered by the districts were compared for TVRP and Non-TVRP classes at five of the six sites. The objective-referenced test, which contained items consistent with the process-content areas identified in the content analysis, was administered to TVRP and Non-TVRP classes in three of the sites.

Assessment of Classroom Events

Both TVRP and Non-TVRP teachers were asked to complete a questionnaire (called the Reading Questionnaire) which requested descriptive information about their classrooms during reading instruction. The teachers were asked to describe the activities included in a typical lesson, the degree of interest shown by their students, and the number of interruptions required for discriplinary purposes. The questionnaire items were formulated on the basis of research findings which showed positive correlations between certain instructional events and achievement (Stallings & Hentzell, 1978; Evertson, Anderson, & Brophy, 1978). The questionnaire was sent to teachers in the Fall and the Spring. TVRP teachers were asked to supply this information first for their standard instruction practices and later for the TVRP materials. The Non-TVRP data were considered baseline information for change during the six months between questionnaire administrations.

In addition to questionnaires, classroom observations were conducted using a fine-grain, low inference observation scale to provide direct measures of the events similar to those estimated by the questionnaire data. Both the questionnaires and the observations provided information about the level of attention shown by the students, the level of disruption during lessons, and the ease with which students handled the materials. Results of the Phase I evaluation indicate that teachers saw improvement in these areas when using the TVRP materials, and the Phase II measures were an attempt to extend and refine these findings.

Assessment of TVRP Instructional Value to Teachers

Teachers using the TVRP materials received Program Questionnaires (PQ) in November 1978, February 1979 and May 1979 following the use of the scripts for those months. The PQ asked general questions about the attractiveness of the materials and specific questions about the use of the suggested exercises. These questionnaires served three purposes. They provided (1) longitudinal data on the pattern of exercise use and the level of attractiveness to the teachers, (2) information about the specific skills which were reinforced in instruction, thereby, making specific predictions about achievement possible, and (3) information about problems experienced by the teachers and facets of the program which require improvement.

Table 1 describes the target data collection for the second phase of the evaluation, the number of classes from each site which supplied the information, and the source of the data (school records, questionnaires, or observation). Table 2 gives a brief description of the instruments used in the evaluation, the variables assessed by each, and whether the data source was the TVRP group only or both the TVRP and Non-TVRP groups. Summary statistics were calculated for the site description information, norm-referenced and objective-referenced test data, the Reading Questionnaire data, and the Program Questionnaire data. In addition,

Table 1
Data Collected, Classes Providing Information, Source of Information

| Type of Information | Source of Information: 8 TVRP Classes 4 Non-TVRP Classes | Source of Information: 20 TVRP, 20 Non-TVRP Grades 4, 6, 8 | Source of Information: All Classes |
|---|---|---|---|
| 1. Mean class reading, reading level | | | R |
| 2. Percent of students reading below grade level | | | R |
| 3. Percent students with financial need | | | R |
| 4. Reading vocabulary and comprehension achievement scores | | R | |
| 5. Teacher tenure | | | R |
| 6. Site minority proportions | | | R |
| 7. Behavior during reading instruction | O | | Q |
| 8. Teacher opinion of and use of materials | | | Q |

Form of Information
O = Observation
R = Records
Q = Questionnaires

Table 2
Instruments Used in TV Reading Program Evaluation

| Name | Variables | Group |
|---|---|---|
| Achievement Test norm-referenced | General vocabulary and comprehension achievement | TVRP/Non-TVRP |
| objective-referenced | Selected vocabulary and comprehension skills | |
| Reading Questionnaires | Teacher assessment of 1) student attention 2) student interest 3) instructional effectiveness | TVRP |
| Stanford Research Institute Classroom Observation | Behavior reflecting attention to and interest in reading materials | TVRP/Non-TVRP |
| Program Questionnaires | Use of suggested exercises<br>Student interest in scripts<br>Problems with materials | TVRP |

comparative statistics were calculated for the norm-referenced and objective-referenced test data and the Reading Questionnaire data comparing the Non-TVRP class mean scores with the TVRP class mean scores.

Figure 1 illustrates the analysis design used in each site for the comparative data. Because it was impossible to randomly assign individual students to TVRP and Non-TVRP classes, the class mean achievement scores were the unit analysis for achievement comparsions. For all comparative analyses, there were at least two factors; grade level and treatment group. (In one site, typical grade level indicators were not used due to heterogeneous grouping). Repeated measures or replication became a third factor in the analyses of norm-referenced test and Reading Questionnaire data which were sampled twice during the year.

Sample

Letters of inquiry about the program were received by CCC personnel from a large number of school districts. Six of these sites were selected to participate in the TVRP evaluation and are listed below. Also listed are the school district personnel identified by administrators to serve as liaisons between CERE and the participating teachers.

| School Districts | Liaison Personnel |
|---|---|
| 1. Minneapolis Public School System<br>Minnespolis, Minnesota | Ms. Peg O'Shaughnessy, Mr. Cyrus Yesner,<br>Mr. Lary Johnson* |
| 2. Chicago Public School System<br>Chicago, Illinois | Dr. Charita Chapman, Ms. Birdie Miller,<br>Dr. Marion Rice* |
| 3. Mount Vernon Public Schools<br>Mount Vernon, N.Y. | Mrs. Ruth Cafarella, Mr. Seth Lachterman* |
| 4. Pinellas County Public Schools<br>Clearwater, Florida | Mr. John Blank, Mr. Thomas Tocco* |
| 5. Dallas Independent School System<br>Dallas, Texas | Ms. LuOuida Phillips, Ms. Betty Jackson,<br>Dr. Robert Grobe* |
| 6. Bullhead City Public Schools<br>Bullhead City, Arizona | Mr. John Griffin* |

* Responsible for providing achievement and/or demographic data.

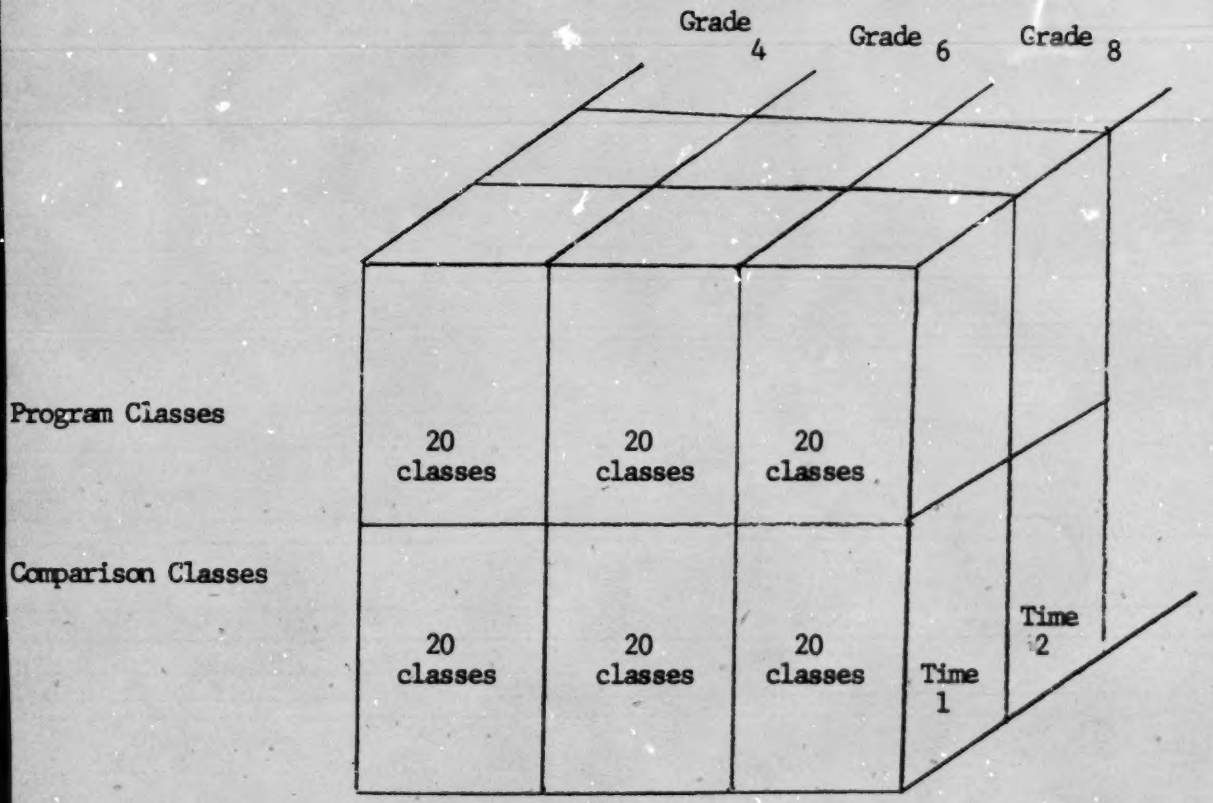


Figure 1. Achievement comparisons of vocabulary and comprehension scores.

They agreed to inform teachers about the program and evaluation project, furnish CCC and CERE with names of participating teachers, and monitor the delivery of both program materials to teachers and evaluation information to CERE.

Participation by all school districts except Dallas was initiated and finalized by CCC. Names of key administrative liaison persons from each school district were forwarded to CERE during the late summer or early fall of 1978.

Teacher Identification

The site liaison people received information from CCC and CERE about the nature of the program materials and the evaluation project. That is, the participating teachers would receive nine sets of script materials for the class, one per month, to be used as supplementary reading instruction materials. The teachers agreed to complete five questionnaires at specified times throughout the year, and to provide individual student identification where necessary to assist CERE in acquiring achievement data. The liaison people then informed teachers and building principals about the availability of the materials and the nature of the evaluation activities either through memos or at meetings, and asked to receive the names of teachers who were interested in participating in the project. These names were then forwarded to CCC and CERE.

The evaluation contract specified that TVRP and Non-TVRP teachers should be randomly selected from the entire list of interested teachers. This required that teachers assigned to the Non-TVRP group would be disappointed by being denied use of the materials. A number of the participating sites were reluctant to offer program materials to all teachers and then to withhold them from the Non-TVRP group, even in the interest of a good sampling technique. These sites therefore insisted that all interested teachers receive the materials, and that the comparison group (Non-TVRP) be identified from remaining teachers. In exchange for agreeing to serve as Non-TVRP teachers, this group was promised the use of the program materials during the 1979-80 school year subject to the continuation of the project

past 1978-1979. In the interest of providing an evaluation of broad geographic scope, CCC and CERE agreed to this condition. However, measurement rigor was maintained where possible. Thus, TVRP and Non-TVRP teachers were randomly identified, consistent with the proposed design, in Minneapolis and Pinellas County. Other sites identified the Non-TVRP group through some type of matching process.

Table 3 lists the number of participating teachers and grade levels for the TVRP and Non-TVRP groups for each site. (Chicago schools are not graded with typical grade designations).

Minneapolis. One hundred seventy teachers volunteered to participate in the program after hearing a description of it by Peg O'Shaughnessy. These teachers were randomly assigned to TVRP groups until the available pool of names was exhausted or until the group numbered 35, a number judged sufficiently large to provide adequate power and to allow for attrition. CERE had originally proposed that each group number 20 but, because of the large number of volunteers at the 6th grade level, the number was raised to 35. Additional Non-TVRP teachers were identified in a school which was later added to the sample in this site. The total final sample was 156.

Chicago. In early fall, Dr. Michael McAndrew and Mr. Ed Meell traveled to Chicago to meet with Dr. Charita Chapman, Reading Coordinator, to explain the TVRP. Dr. Chapman and the district superintendent then provided information on a district-wide basis. The Chicago administrators identified schools within the district that were not heavily involved with special programs or projects. Seven classes in one school per subdistrict within the entire school district were selected to participate. In some cases, more than one school in each subdistrict was identified if there were not seven classes in that particular school that qualified to use the materials. There are 27 areas within the system but, in four cases, two schools were chosen to fulfill the seven classroom requirement

Table 3
Number of TVRP and Non-TVRP Teachers and Grade Levels

| Grade | Site | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minneapolis | | Chicago | | Mt. Vernon | | Pinellas County | | Dallas | | Bullhead City | |
| | TVRP | Non-TVRP | TVRP | Non-TVRP | TVRP | Non-TVRP | TVRP | Non-TVRP | TVRP | Non-TVRP | TVRP | Non-TVRP |
| Talented | | | | | | | | | 5 | | | |
| Special | | | | | | | | | 3 | | | |
| 3rd | | | | | 2 | 1 | | | 5 | | | |
| 4th | 16 | 12 | | | 4 | 2 | 11 | 10 | 53 | 30 | | |
| 5th | | | | | 6 | 5 | 12 | 10 | 56 | | | |
| 6th | 53 | 36 | | | 5 | 4 | 3 | 3 | 32 | 31 | | |
| 7th | | | | | 1 | 1 | 4 | 2 | 11 | | | |
| 8th | 20 | 19 | | | 1 | 1 | 0 | 2 | 11 | 23 | | |
| 9th | | | | | | | | | 22 | | 4 | 2 |
| 10th | | | | | | | | | | | | |
| 11th | | | | | | | | | | | 2 | 1 |
| 4-5 combined | | | | | | | 3 | 3 | | | | |
| 6-7-8 combined | | | | | | | 2 | 2 | | | | |
| 9-10-11 combined | | | | | | | | | | | | |
| Totals | 89 | 67 | 202 | | 19 | 14 | 35 | 32 | 98 | 84 | 6 | 3 |

which meant thirty-one schools was the final number chosen to participate.

The seven classes per school contained children who were in a continuous progress program which is organized on levels. The classes selected were equivalent to grades four to eight. In instances where there were a sufficient number of classes to fulfill the seven classroom quota, teachers were selected on a volunteer basis. In some instances, however, there were fewer than seven classes that could be involved, so additional teachers were requested to use the materials. The final number of teachers chosen to use the TVRP was 202. Although a grade indication could be made for each continuous progress level, the Chicago system used in a "Walking Reading" program in which children changed classes for reading.

A Non-TVRP group was randomly selected and matched with TVRP teachers for achievement data purposes. A minimum of 22 teachers for grade levels four through eight was requested.

Mount Vernon. Teachers were selected by building principals to participate in TVRP and Non-TVRP groups. After the TVRP group had been selected, a second group matched on grade level was chosen to serve as the Non-TVRP group.

Pinellas County. Teachers who volunteered to participate in the program were randomly assigned to TVRP and Non-TVRP groups by CERE personnel. The classes selected were grades four through eight.

Dallas. Participation was limited to grades four through nine and, as in Minneapolis, the teacher sample was the result of volunteers who expressed interest in the TVRP. The proposed experimental design, for achievement comparisons, specified a sample size of twenty teachers at three grade levels for the TVRP and Non-TVRP groups. The number of teachers who volunteered to use the program at grades four, six, and nine exceeded the number needed for this comparison. In order to simplify the process of identifying the Non-TVRP group, a subsample of TVRP teachers was randomly identified from grades four and six in numbers large

enough to allow for attrition. All 23 volunteer ninth grade teachers were retained.

Two separate categories of classes can be noted in Table 3 for Dallas. Included in the names of teachers sent from Dallas were five teachers who taught talented classes and three special education teachers.

Bullhead City. The teacher sample was small at this site, consisting of six TVRP classes, and three Non-TVRP classes.

Mechanics of Data Collection

Each teacher was assigned an identification number consisting of eleven digits according to the following code:

| | |
|---|---|
| Column 1 | site code (1-6) |
| 2-3 | region within site |
| 4-5-6 | school number |
| 7-8 | teacher number within school |
| 9 | group i.e. 1=TVRP 2=Non-TVRP |
| 10-11 | group level |

This identification number was used on all correspondence for each teacher and to code all data for that teacher.

Instrumentation

As stated in the August 1, 1978 proposal submitted to Capital Cities Communication, Inc,, CERE proposed to gather descriptive information and to evaluate both motivational and instructional effectiveness of the TVRP during the 1978-79 year. Six school systems participated in the evaluation project, none of which had used the program before. The evaluation posed these questions. (1) What are the characteristics of the schools, teachers and students who use the TVRP materials? (2) Does use of the TVRP result in measurable differences in reading achievement? (3) Does use of the TVRP result in an increase in positive instructional events, such as increased attention in instruction? (4) Do the materials meet the instructional needs of the teachers?

Demographic information. To answer the first question it was necessary to obtain descriptive information from the participating sites. CERE asked that the site provide data on class size, sex and ethnic proportions, percent of students reading below grade level, teacher experience, class structure, instructional materials used, and an index of economic status. Each site was free to choose the most available form and convenient vehicle for the transfer of this information. Minneapolis, Mount Vernon, Pinellas County and Bullhead City chose to distribute similar forms of questionnaires written by CERE to individual teachers who supplied the desired information by answering general questions. The teachers were not asked to provide economic information for the class. This information was supplied by administrators in the form of district-wide percentages of students who qualified for free lunch.

Dallas and Chicago preferred that individual teachers not receive the CERE questionnaire and agreed, instead, to use the data base maintained in their districts as the source of information. Dallas transferred data for individual classes on magnetic tape with achievement scores, while Chicago provided district-wide tables with data for schools. CERE personnel extracted the information for all participating Chicago schools from these tables.

Instructional effectiveness. To answer the second question "Does the use of the TVRP result in measurable differences in reading achievement?" two types of achievement test scores were used. First, norm-referenced vocabulary and comprehension test scores, used in each site as part of the established school district procedure were analyzed to determine the instructional effectiveness of the TVRP. Table 4 lists the types and forms of norm-referenced tests used in each site. Scores from 1978 were compared to determine if TVRP-Non-TVRP differences existed at the beginning of the year. Posttest scores (1979) were compared to determine if the TVRP had been effective. With the exception of the Bullhead City site, both pre and posttest scores were provided.

Table 4
Norm-Referenced Achievement Tests
Site, Name, Form, and Dates of Administration

| Site | Achievement Test | Form | Pre | Post |
|---|---|---|---|---|
| Minneapolis | Stanford Achievement Test (grades 4 & 6) | Primary Level 3, Form A (grade 4) Intermediate Level 2, Form A (grade 6) | October, 1978 | |
| | Gates McGinitie (grade 8) | Survey E, Form 1-M | October, 1978 | April, 1979 |
| Chicago | Iowa Test of Basic Skills* | Form 6 | Spring, 1978 | Spring, 1979 |
| Mount Vernon | SRA* | 1971 SRA Form<br>1978 SRA Form | May, 1978<br>(1971 Form) | May, 1979<br>(1978 Form) |
| Pinellas County | Metropolitan (grades 4&5)* | Form G, Grade 4<br>Form E, Grade 5 | April, 1978 | April, 1979 |
| Dallas | Iowa Test of Basic Skills* (grades 4 & 6) | Form 5, Grades 4 & 6 | March, 1978 | March, 1979 |
| | Iowa Test of Educational Development (grade 9) | Form X5, Grade 9 | March, 1978 | March, 1979 |
| Bullhead | None | | | |

* Both pre and post

A second type of measure, an objective-referenced test of vocabulary and comprehensive skills, was administered in March in Minneapolis and in April in Chicago and Bullhead City. This test was developed to be consistent with the TVRP objectives, and was therefore more specific than the nonn-referenced tests. This provided a more precise estimate of reading skill development than the norm-referenced test. Both the norm-referenced and objective-referenced measures are described in detail in Chapter II.

Classroom events. Two measures of behavioral effectiveness were employed; the first based on self-report information was supplied by teachers as they completed the RQ. The second consisted of classroom observations using specially trained observers.

Two administrations of the RQ were completed by TVRP and Non-TVRP teachers in order to assess student motivation relative to reading instruction. The RQ contains three subscales which estimate student attentive behavior, perceived interest, and academic success with the standard reading program being used in the site. The October questionnaire was administered before TVRP materials were used and provided a baseline for comparison. The March questionnaire was completed by TVRP teachers who were asked to make judgments about the student behavior, interest and success with respect to the program. Non-TVRP teachers were asked to keep their regular reading program in mind when filling out both questionnaires. Results of data analysis on both RQs can be found in Chapter IV.

To further explore the first year findings that the use of the TVRP resulted in students who were more attentive and less disruptive, classroom observations by trained persons using tested assessment techniques were conducted in eleven classes in Minneapolis and Dallas. These systematic observations were made during the second and third weeks of March in both TVRP and Non-TVRP

classes and comparisons were made. Observation procedures and findings can be located in Chapter IV.

Reaction to program materials. Teachers using the TVRP materials were asked to complete three Program Questionnaires (PQs) in order to provide data to answer the fourth question "Do the materials meet the instructional needs of the teachers?" Each PQ accompanied a specific TVRP script and requested teacher opinion concerning the level of program use and recommendations for program improvement.

Teachers were asked to record the exercises used by the class as well as the class response to the script choice and a list of any difficulties encountered with the materials. The last PQ asked the teachers to comment on their desire to continue with the program. Findings from these questionnaires are summarized in Chapter V.

Data Collection and Management

Table 5 illustrates dates for distribution and return for all questionnaires. The distribution and collection procedure used for all questionnaires varied according to site, as did the follow up procedures. Some sites used a direct method for distribution and collection procedures while others used an indirect method. This former method was used in Pinellas County and Bullhead City. Questionnaires were mailed directly to each teacher who completed the form and returned them to CERE in an envelope provided by CERE. An indirect method was used in Minneapolis, Chicago, Mount Vernon, and Dallas. In Chicago, questionnaires were mailed to school contact teachers who distributed and collected the forms to teachers in their buildings before returning them to CERE. In Minneapolis, Mount Vernon, and Dallas, questionnaires were sent to the site contact people who then sent the forms to each school. School contact teachers received the forms and distributed them to and collected them from

Table 5
Schedule for Questionnaire Distribution and Return

| Questionnaire | Labels, Cover Letter Envelopes, Answer Sheets* Printing Completed | Materials Mailed | Received by Teachers | Completed Forms Received by Site Coordinators** | Completed Forms Received by CERE |
|---|---|---|---|---|---|
| RQ-1 | 10/19 | 10/26 | 11/1 | 11/8 | 11/15 |
| PQ-1 | 11/3 | 11/17 | 11/23 | 11/29 | 12/15 |
| PQ-2 | 1/5 | 1/19 | 1/25 | 2/1 | 2/5 |
| RQ-2 | 3/2 | 3/8 | 3/16 | 3/23 | 3/20 |
| PQ-3 | 4/6 | 4/20 | 4/27 | 5/4 | 5/11 |

*Reading questionnaire only

** Where applicable

teachers in their buildings. The completed questionnaires were then sent to the site contact person who mailed them all back to CERE.

The indirect method proved much more efficient because the site contact person was the only person responsible for sending out all forms. This person could then follow up on teachers who did not complete the forms. This procedure allowed for all forms to be sent to CERE in several large mailings rather than one by one.

The two Reading Questionnaires were mailed from CERE and three Program Questionnaires were mailed from CCC. Table 6 indicates return rates for all questionnaires. It was decided that a minimum return rate of 70% would eliminate any systematic bias attributable to attrition.

Master lists of all participating teacher names and identification numbers were maintained in the CERE office. As questionnaires were received, the teachers names were checked. Three weeks after return dates specified in the letters of instruction, lists were compiled of teachers who had not returned the forms. These lists were then sent to site liaison personnel who contacted the teachers and reminded them to return the forms. Three such reminders were given to the teachers, and duplicate forms accompanied the last reminder. Tallies of returned forms were completed every two weeks and copies of these reports were sent to CCC.

Responses on the demographic information forms and Program Questionnaires were coded by CERE staff according to the following CERE scheme. The coded data were typed into computer data files for analyses. Responses to the Reading Questionnaire were made on optical scan sheets. These data were entered into computer storage files by means of an optical scanner. Programmers sorted them by teacher identification number and aggregated them by grade level and treatment group. Summary statistics were provided by submitting the data to programs contained in the Statistical Package for the Social Sciences system. Comparative statistics

Table 6
Return Rates for RQs and PQs
TVRP and Non-TVRP
(Percentages in Parentheses)

| Data | Site | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minneapolis | | Chicago | | Mount Vernon | | Pinellas County | | Dallas | | Bullhead City | |
| | TVRP | N-TVRP | TVRP | N-TVRP | TVRP | N-TVRP | TVRP | N-TVRP | TVRP | N-TVRP | TVRP | N-TVRP |
| RQ1 | 78/87 (89) | 54/69 (78) | 92/202 (45) | * | 18/18 (100) | * | 29/31 (93) | * | 172/198 (86) | * | 6/6 (100) | * |
| RQ2 | 70/87 (80) | 47/69 (68) | 129/202 (63) | * | 15/18 (83) | 10/13 (76) | 23/31 (74) | 25/32 (78) | 189/198 (95) | * | 6/6 (100) | 3/3 (100) |
| PQ1 | Lost | * | 89/202 (44) | * | 15/18 (83) | * | 27/31 (87) | * | 175/198 (88) | * | 5/6 (83) | * |
| PQ2 | 70/87 (80) | * | 155/202 (76) | * | 17/18 (96) | * | 26/31 (83) | * | 186/198 (93) | * | 6/6 (100) | * |
| PQ3 | 61/87 (70) | * | 100/202 (49) | * | 16/18 (88) | * | 24/31 (77) | * | 181/198 (91) | * | 5/6 (83) | * |

* Not Applicable

were provided by an analysis of variance routine developed at The Pennsylvania State University in which the effects of treatment group and grade level could be examined.

Project Activities and Timetable

A timetable was established by Capital Cities and CERE staff before the school year began. The dates selected as deadlines were changed in some cases when it became apparent that scheduling was too close. In general, however, the calendar was followed as established. Table 7 describes the project completion timetable and dates for each phase of the TVRP.

Staff

The CERE staff which conducted the research and evaluation for the TVRP during the 1978-79 year was as follows:

Dr. Michael Szabo, Associate Professor of Education at Penn State University and Associate Director of CERE was Project Director of the TVRP. Ms. Ann Lamiell-Landy, Research Assistant and Project Coordinator, assisted Dr. Szabo. In addition, Ms. Penny Sebring and Ms. Elaine Smeltz, Research Assistants, served as staff members. In October, Ms. Smeltz left the project when she was offered a permanent position elsewhere in the University.

In January, Ms. Sebring's fulltime position became available when she began permanent work in another department of the University. Her full time job was at that time offered to two people. Michael Murphy, graduate student, and Ms. Ann Kochenberger, Research Assistant, were hired to complete Ms. Sebring's TVRP responsibilities.

Jerry Reid, Research Assistant, conducted the data analysis of the project until April when he moved to Minneapolis. Terry Bahn, Research Assistant, replaced Mr. Reid at the time. Mr. Bahn completed his graduate studies in August and his responsibilities were completed by Ms. Jane Clark.

Table 7
Project Completion Timetable

| Time Period | Activities |
|---|---|
| August 14-October 1 | Solicited cooperation from school sites who would use materials, and agree to monitor data collection (e.g. follow up missing forms with a request for completion); selected participating sites. |
| October 1-October 5 | Refined data collection procedures with cooperating site personnel. Met with participating teachers to describe material use and data collection. Assigned code numbers to participating classes. |
| October 15-October 30 | Printed and mailed Reading Questionnaire to classes participating in survey study. |
| November 1-December 15 | Distributed first Program Questionnaire; followed up on unreturned PQs and RQs. Arranged transfer of pre-test achievement data. |
| January 5-January 12 | Trained observers in data collection procedures at Stanford Research Institute |
| January 15-January 30 | Conducted observations in four TVRP classes; followed up on missing RQs; analyzed RQ data and described findings. |
| February 1-March 1 | Analyzed observation data; constructed observation form for use with TVRP and Non-TVRP classes. Distributed second PQ. |
| March 1-March 16 | Observed 4 TVRP and 3 Non-TVRP classes during reading instruction (three lessons for each class); PQs distributed with script materials; progress report sent to Capital Cities Communications. |
| March 16-May 1 | Analyzed class observations; formulated achievement predictions, arranged achievement data collection. |
| May 1-June 1 | Sent PQs to survey teachers; distributed second RQ to TVRP and Non-TVRP teachers, follow up procedure conducted for forms not returned; organized achievement data for analysis. |
| June 1-September 13, 1979 | Assessed achievement comparisons formulated on the basis of observational data; compared level of program use; compared student interest and behavior in TVRP and Non-TVRP classes; analyzed data and wrote reports. |

## Chapter II
## Description of Pilot Classes and Program Materials

One of the goals of Phase II evaluation was to provide an extensive description of the TVRP materials and of the schools, teachers, and students who used them.

The description of the program materials included a content analysis of the script exercises which categorized the exercises according to process and content and a readability measure of three TVRP scripts to determine the grade level reading difficulty of the scripts. To acquire the necessary demographic information, CERE requested that each site provide the following data for the TVRP students and teachers:

1. The proportion of minority students in each participating class
2. The proportion of families who qualified for free lunch ( a socio-economic index)
3. The number of students reading below grade level
4. Teacher experience

### Instrument Used To Collect Demographic Data

Demographic data were obtained in several ways, depending upon the method approved by each school district. A Demographic Survey Questionnaire, developed by CERE staff for this evaluation, was sent to teachers in Minneapolis, Mount Vernon, Pinellas County, and Bullhead City. Chicago demographic information was contained in summary tables (Chicago Public Schools, Department of Administration, 1978a; Chicago Public Schools, Department of Administration, 1978b.)

The Demographic Survey Questionnaire issued to Minneapolis teachers is found in Appendix A.

The questionnaire provided data in three categories. Questions 1 & 10 requested information describing class size and teacher experience. Questions 3 & 4 provided information concerning sex proportion and racial/ethnic background

of students in the TVRP and Non-TVRP classes.

Questions 6 & 8 attempted to determine class structure (continuous progress, modified open, open, or self-contained) and number of students in the class reading below norm grade level. Question 2 asked how many students of each grade level were in the class while Questions 7 & 9 requested information about the subject area of the classes and the reading program used. Question 5 asked the approximate time of day teachers would be using the TVRP materials. This question enabled evaluators to schedule the classroom observations which were conducted the week of March 11 in several Minneapolis classrooms.

The Demographic Survey Questionnaire sent to teachers in Mount Vernon, Pinellas County, and Bullhead City differed somewhat from the Minneapolis form. The question requesting the time of day when teachers would be using the reading materials was deleted. Two additional questions asked if the classes were grouped homogeneously or hetergeneously and requested teachers to indicate the percentage of students eligible for free lunch.

Once the demographic information was received, CERE analyzed the data and computed summary statistics (i.e. means and percentages) for each grade level at each site. In all sites except Chicago, demographic data were gathered on individual classrooms. The Chicago data were available only on the school building level.

## Results

The results of the demographic questionnaires are summarized in three tables which depict average class size and teacher experience, a class demographic profile, and an instructional context profile.

### Average Class Size and Teacher Experience

Table 8 summarizes the average class size and teacher experience in intermediate and secondary grades within sites. The average class size across sites was 27 students; the smallest classes consisted of 22 students in a fourth grade

Table 8
Average Class Size and Teacher Experience
Intermediate and Secondary Grades Within Sites

| Site | Average Number of Students Per Class | | Average Number of Teaching Years | |
|---|---|---|---|---|
| | Intermediate | Secondary | Intermediate | Secondary |
| Minneapolis | 25 | 36 | 14 | 12 |
| Chicago | | Data Categorized Differently | | |
| Mount Vernon | 24 | 28 | 9 | 10 |
| Pinellas County | 26 | * | 12 | * |
| Dallas | 25 | 28 | 11 | 7 |
| Bullhead City | * | 24 | * | 2 |

* No classes participating at this level

class in Mount Vernon and a ninth grade Bullhead City class. The largest class was an eighth grade Minneapolis class which contained 36 students. Class size information was not available for Chicago classes.

The average teaching experience was 9.6 years across all sites. The lowest average was in Bullhead City ninth and eleventh grades where the average number was two years, while the highest average was in Mount Vernon sixth grade classes where teachers had an average of sixteen years teaching experience. In Chicago, 21-82% of all teachers had taught a minimum of six years.

Class Demographic Profile

A class demographic profile, including average proportion of males, minorities, and free lunch appears as Table 9.

The mean percentage of males across sites was 56%. The percentages ranged from 46% male in a fourth grade Minneapolis class to 75% male population in an eighth grade class at that same site. Pinellas County did not provide data on sex proportions.

The average class across sites contained 50% minority students. Percentages ranged from a fifth grade Pinellas County class which contained 15% minorities to an 88% minority population in a Bullhead City ninth grade class. For Chicago classes, the minority figure ranged from 0-99% Black students and from 0-94% Hispanic students in a given school.

To determine economic status, the number of students in a class qualifying for the free lunch program was obtained from teachers in all sites except Minneapolis and Chicago. Across sites, the percentage of students who qualified for free lunch was 46%. This percentage ranged from 15% in a fourth grade Mount Vernon class and a Dallas ninth grade class to 100% in all Bullhead City classes.

In Minneapolis the data were provided for the school district as a whole, rather than by school buildings or teachers. According to the Minneapolis

Table 9
Class Demographic Profile: Average Proportion Males, Minorities, and Free Lunch in Intermediate and Secondary Grades Within Site

| Site | Males | | Minorities | | Free Lunch | |
|---|---|---|---|---|---|---|
| | I[1] | S[2] | I | S | I | S |
| Minneapolis | 51 | 75 | 26 | 25 | * | * |
| Chicago | * | * | * | * | * | * |
| Mount Vernon | 51 | 66 | 66 | 65 | 38 | 57 |
| Pinellas County | * | * | 15 | * | 19 | * |
| Dallas | 51 | 53 | 62 | 58 | 36 | 15 |
| Bullhead City | * | 49 | * | 57 | * | 100 |

* Data not available

[1] I=Intermediate

[2] S=Secondary

School District, one-half of the families qualify for Aid to Families with Dependent Children, a free lunch program.

In Chicago, the average number of children from low income families in each school was found in the summary tables provided by the school district. From 49 to 93% of the children came from low income families, indicating large variability in economic status.

Instructional Context Profile

Depicted in Table 10 is the instructional context profile which provides percentages of classes in each class structure type, ability grouping pattern, and the proportion of students reading below grade level. Four types of class structure were used in classrooms across all sites in the following percentages:

| | |
|---|---|
| Continuous Progress | 30.5% |
| Modified Open | 23.9% |
| Open | 1.9% |
| Self-Contained | 43.7% |

In most cases, each grade had some classes representing each class structure type but there were exceptions. All Bullhead City eleventh grade classes were modified open and all third grade classes in Mount Vernon were self-contained in class structure. Continuous progress was the type of structure used in all Mount Vernon eighth grades. Neither Pinellas County nor Dallas schools provided CERE with data on class structure.

Each of the teachers indicated either heterogeneous or homogeneous ability grouping for their class. Across sites, 66% of all classes were grouped heterogeneously, the remaining 34% being of a homogeneous grouping. In three sites, 100% heterogeneous grouping was used. (Minneapolis fourth grade classes, Mount Vernon third and eighth grade classes, and Bullhead City ninth grades).

In each class, the percentage of students reading six months or more below grade level was reported. These data were then averaged by the district for each grade to give expected value per class. Over all sites, the percent reading below

Table 10
Instruction Context Profile
Percentage of Intermediate and Secondary Classes from Each Site in Each Class Structure Type and Ability and Ability Grouping Pattern;
Percentage of Students Reading Below Grade Level

| Site | Class Structure | | | | | | | | | | Below Grade Level Reading | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Continuous Progress | | Modified Open | | Open | | Self-Contained | | Heterogeneous Ability Grouping | | | |
| | I[1] | S[2] | I | S | I | S | I | S | I | S | I | S |
| Minneapolis | 43 | 29 | 14 | 3 | 7 | 7 | 36 | 61 | 51 | 97 | 43 | 69 |
| Chicago | * | * | * | * | * | * | * | * | * | * | * | * |
| Mount Vernon | 21 | 61 | 4 | 6 | 0 | 0 | 66 | 34 | 59 | 66 | 40 | 65 |
| Pinellas County | * | * | * | * | * | * | * | * | 39 | * | 15 | * |
| Dallas | * | * | * | * | * | * | * | * | 76 | 94 | 65 | 88 |
| Bullhead City | * | 9 | * | 83 | * | 0 | * | 8 | * | 100 | * | 60 |

*Not applicable

[1]I=Intermediate

[2]S=Secondary

grade level was 54% of all students. The low figure was 20% for one Bullhead City eleventh grade class, while the high figure was 100% for one Bullhead City ninth grade and one Mount Vernon eighth grade class.

Several statements can be made concerning typical reading abilities.

1. In general, the upper grades contained higher percentages of students who were reading below grade level than did lower grades.

2. In Dallas, there was a larger percentage of students reading below grade level in grade six (75%) than in grade four (55%). This percentage was even larger for grade eight where 88% were reading below grade level.

3. In Pinellas County, the percentages increase from grade four where 36% were reading below grade level to grade five where 46% were reading below grade level.

4. Percentages for Bullhead City students are deceiving because of the small sample at that site. A small difference in absolute numbers makes a big difference in percentages.

Teachers were also asked to indicate what subject was taught in classes using the TVRP. The classes were identified as reading, English, or language. In grades three through six, the classes were reading classes, while in grades seven and above the majority of classes were English classes.

Reading texts used during the regular reading program were identified and included Pinellas City Reading Program and the Houghton-Mifflin, Harcourt-Brace and Power Reading text series, all of which were used in Pinellas County schools. These data were not available for Chicago. Minneapolis and Bullhead City used Ginn 720 and Science Research Associates, Dallas used the Houghton-Mifflin series while Mount Vernon classes used Distar in addition to Ginn 720 and SRA.

## Readability Levels of TVRP Materials

A total of nine TVRP scripts, accompanied by skill-building exercises, were used by the TVRP classes. To estimate script readability, a Fry Readability

measure was calculated. To determine the process and content of the exercises, a content analysis of three scripts was conducted by CERE.

Readability Estimate

A grade level readability estimate was calculated using the Fry procedure (1978) for three of the scripts used by TVRP classes. This test considers two variables; (1) number of sentences per 100 words and (2) number of syllables per 100 words. Three passages containing 100 words each were randomly selected from each script and a count was made of the number of sentences and the number of syllables per 100 words. Readability level is determined by plotting these two values on the Graph For Estimating Readability. In order to be at 5th grade level or below, materials should have an average of seven or more sentences per 100 words with 125 fewer syllables.

Depicted in Table 11 are the average number of words and sentences per 100 word passage along with the grade level readability for each script tested. The following statements seem to be warranted regarding the Fry test results:

The Spiderman script readability level was higher (grade 5) than the level of the other two scripts (grade 3). This is consistent with the findings on the PQ data analysis which showed, in the opinion of many teachers, that the Spiderman script was difficult for their classes and that the vocabulary had to be explained and defined throughout the reading of the script.

Teachers also reported that their classes enjoyed Happy Days and Mork and Mindy more that they enjoyed Spiderman because these scripts were easier to read. Due to the content of the materials however, older children (grades 5-9) were more interested in these programs than were younger children in grades 3 and 4 (see Chapter V).

Although the average number of syllables is approximately the same for the three scripts, the average number of sentences is higher for the Happy Days and Mork and Mindy scripts. This means that these two scripts contain shorter

Table 11
Script Readability As Determined By Fry
Readability Test Procedure (Fry,1968)

| Script | Syllables | Sentences | Readability |
|---|---|---|---|
| Spiderman | 133 | 9.0 | Grade 5 |
| Happy Days | 137 | 14.4 | Grade 3 |
| Mork & Mindy | 132 | 13.3 | Grade 3 |

sentences per 100 words than does the Spiderman script, making these scripts easier to read.

Script Exercise Content Analysis

A content analysis was also completed for the same three scripts to determine the process and content (language skill area) tapped by each of the available exercises.

Each exercise was categorized as requiring primarily one of four cognitive activities or processes: Recognition / Translation, Interpretation, Application, or Analysis using Bloom's definition (Bloom, 1956). It was also labeled according to the language skill receiving practice, and the content (e.g., recognizing vocabulary, synonyms). Tables 12 and 13 show process by content tallies for the exercises from the three scripts, with the process categories listed vertically to the left. Separate tallies were made for intermediate (Table 12) and secondary materials (Table 13). The numbers which appear under each category represent the frequency of occurrence for that particular type of exercise in all three scripts. Total numbers can be found in the far right column and represent totals for each process category.

The following conventions were observed:

1. Scrambled words, crossword puzzles, and word search were all considered Vocabulary Recognition.

2. Context clues were categorized as Recognition-Recall when the exercise simply called for recognition of meaning from context. If the exercise required a student's own words of a concept, the exercise was categorized as Translation. The use of context clues could involve either a phrase or a complete sentence.

3. Sequencing the events was tabulated under Recognition-Recall.

4. Sometimes an exercise is entered in more than one cell because there were two steps or parts to the exercise. For example, four processes were tapped by the exercises provided in the scripts. Some were emphasized more heavily than others. Distribution of emphasis was as follows:

Recognition: Recognize, or recall and apply, facts, theories, laws, concepts, structures, methods, and formulas previously learned. (50%)

Table 12
Content Analysis for Three Scripts, Intermediate Exercises
Number of Exercises Classified in Each Process/Content Combination

| Process | Total | Comprehension Content | | | | | | | | | | | | | | | | Vocabulary Content | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Categorization | Analogies | Rewording | Main Idea | Conclusions | Inference & Generalizations | Abstracting Characteristics | Oral Expression | Written Expression | Verify (F-O) | Cause-Effect | Sequencing | Skim: Who, What, Where, Why | | Vocabulary Definition | Context Clues | Word Structure | Synonyms, Antonyms, Homonyms | Spelling, Alphabetizing | Vocabulary Recognition |
| Recognition/ Recall & Application | 39 | | | | 1 | | | | | | | | | 6 | | 3 | 9 | 3 | 2 | 0 | 15 |
| Translation | 13 | 1 | 1 | 1 | | | 1 | | 1 | 1 | | | 1 | 1 | | | 5 | | | | |
| Interpretation (Synthesis) | 28 | | 2 | 1 | | 1 | 1 | 5 | 2 | 6 | | 2 | | 7 | | | 1 | | | | |
| Analysis | 5 | | | | | | | | 1 | | 2 | | 1 | | | | | | | | 1 |
| Total | | 1 | 3 | 2 | 1 | 1 | 2 | 5 | 4 | 7 | 2 | 2 | 2 | 14 | | 3 | 15 | 3 | 2 | 0 | 16 |

Table 13
Content Analysis for Three Scripts, Secondary Exercises
Number of Exercises Classified in Each Process/Content Combination

| Process | Comprehension Content | | | | | | | | | | | | | | | | | | Vocabulary Content | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Categorization | Analogies | Rewording | Main Idea | Conclusions | Inference & Generalizations | Abstracting Characteristics | Oral Expression | Written Expression | Verify (F-O) | Cause-Effect | Sequencing | Skim: Who, What, Where, Why | Vocabulary Definition | Context Clues | Word Structure | Synonyms, Antonyms, Homonyms | Spelling, Alphabetizing | Vocabulary Recognition |
| Recognition/ Recall & Application | 30 | | | | 1 | | | 1 | | 1 | | | | 5 | 4 | 12 | 3 | 1 | | 2 |
| Translation | 19 | | | | | | | 2 | 1 | 1 | | | | 1 | | 8 | | 5 | | 1 |
| Interpretation (Synthesis) | 31 | 1 | | | 5 | 2 | 3 | 1 | 2 | 9 | 1 | | 1 | 2 | | 2 | 1 | | | 1 |
| Analysis | 10 | | | | | 1 | 2 | 1 | 2 | 2 | | | | 2 | | | | | | |
| Total | | 1 | 0 | 0 | 6 | 3 | 5 | 5 | 5 | 13 | 1 | | 1 | 10 | 4 | 22 | 4 | 6 | 0 | 4 |

Translation: Transform concepts, terms or symbols into equivalent forms, as in interpreting graphically presented data. (10%)

Interpretation: Understand facts and concepts in, and make inferences from written materials. Associate data ideas and comprehend relationships stated or implied in materials. Summarize and/or restate significant themes or concepts. (40%)

Analysis: Apply formal logic in: the breakdown of material into organizational patterns or principal components; the determination of validity, bias, tone; the hierarchical arrangement of facts; the cognizance of total problems. (The definitions are taken from the Test Coordinator's Handbook, Comprehensive Test of Basic Skill. California: CTB/McGraw Hill, 1974). (10%)

Several statements can be made concerning the Intermediate grade script content analysis as depicted in Table 12. Most exercises require either Recognition (39 exercises) or Interpretation (28 activities). There were 13 exercises which required the Translation process, while only five activities required the process of Analysis.

In analyzing the Vocabulary exercises, most activities dealt with Vocabulary Recognition or the use of Context Clues to identify vocabulary words. These exercises required processes of Recognition/Application rather than more complex skills. Of the total number of vocabulary exercises, only seven required more complex cognitive skills.

Of the Comprehension exercises, a total of 14 were identified which required the student to Skim for Facts, using the processes of Recognition, Translation or Interpretation. Six Written Expression activities using the process of Interpretation were found, while one exercise requested Written Expression using the process of Translation.

Five activities required the Abstraction of Characteristics using the process of Interpretation.

All other comprehension exercises fell into different process categories with no one category being used in more than four exercises. It should be noted that no Spelling exercises were included.

The secondary exercises were also analyzed and are summarized in Table 13. The following statements can be made.

Emphasis was placed on the processes of Recognition/Application and Interpretation where 30 exercises required Recognition/Application and 31 exercises required Interpretation. Nineteen exercises dealt with the process of Translation and ten required that the process of Analysis be applied.

In the Vocabulary exercises emphasis was concentrated on use of Context (22 exercises) all of which required the use of Recognition/Application, Translation, and Interpretation. Other activities require a variety of skills to be used. The process of Analysis was not required at all in the Vocabulary exercises.

Most of the Comprehension activities dealt with Skimming for Facts or Written Expression skills. All four types of cognitive processes were tapped by these exercises, although Recognition/Recall was most often required in the Skimming exercises, and Interpretation was most often needed to complete the Written Expression exercises. No Cause-Effect, Rewording, or Analogy exercises were supplied for use by secondary students.

Over both Intermediate and Secondary exercises, the Recognition/Application and Interpretation processes were required most frequently. The process of Translation and Analysis were used less frequently in the Intermediate exercises than in the Secondary exercises.

Comparing Intermediate and Secondary Vocabulary exercises, Recognition/Application was required more in the Intermediate exercises (15) than in Secondary exercises (2).

The process of Analysis was required in only one Intermediate exercise

and was not used in any Secondary exercise.

The types of Comprehension exercises were distributed similarly at the Intermediate and Secondary levels, with the exception of Written Expression and Main Idea exercises which were supplied more frequently at the Secondary level. The process of Interpretation was most often required.

No Intermediate Spelling exercises were provided, and no Secondary Spelling, Cause-Effect, Rewording, or Analogy exercises were provided.

The rank ordering of the most frequently used Vocabulary exercises is vastly different for the Intermediate and Secondary levels. Vocabulary Recognition and Context Clues were used most frequently at the Intermediate level with Vocabulary Recognition appearing in 16 exercises and Context Clues appearing in 15 exercises. The next most frequently used content categories were far behind with a frequency of three.

For the Secondary exercises, the top two categories were Context Clues followed by the Synonyms, Antonyms, and Homonyms Category (a distant second). Vocabulary Recognition was tied for third with Word Structure and Vocabulary Definition, each appearing in four exercises.

The rank ordering of Comprehension exercises is not as dissimilar as was noted for the Vocabulary exercises. Even though some differences exist, the distribution of frequencies for the Intermediate and Secondary Exercises are fairly uniform.

## Discussion

The descriptive data for the evaluation sites indicate considerable variability in demographic characteristics from site to site, but very little variability in instructional context.

The average class size is 27 students, and although the junior high classes tended to be somewhat larger than the intermediate classes the difference was

very small. Teacher experience varied widely among the sites from the average figure of nine years. Bullhead City teachers had only two years experience, while Minneapolis teachers averaged 14 years experience. More males than females used the Program materials in every site. The minority proportion in each class varied greatly from site to site (from 15% to 65%) and the proportion of students requiring economic assistance in the form of free lunch varied from 19% to 100%. Thus, it appears that the Television Reading Program was used by many different types of students and teachers. The data drawn from this varied group should be applicable to the majority of intermediate and secondary students in grades four through nine.

Class structure, ability grouping and reading level data provide an index of instructional context. Most of the classes in all of the sites were taught in self-contained classrooms and were heterogeneously grouped. Most of the intermediate students from all sites read at grade level or above, while the majority of the junior high students read below grade level. Given the fact that teachers participating in this study volunteered to use these materials junior high teachers seem to feel that the design of the TVRP is appropriate to meet the needs of the student with reading problems, while the intermediate teachers consider it appropriate for all levels of reading ability.

The script materials themselves may be characterized by the readability measure and the exercise content analysis. One of the three scripts had a readability estimate of grade five, while the other two received estimates of grade three. The materials appear to be well within the reading ability range of all the intermediate and junior high students who used them.

The exercise content analysis identified several areas of strengths and weaknesses. Eighteen different types of exercises were provided for teachers to use with the TVRP lessons. Although not every type of exercise was included with each script, the variety of exercises was distributed evenly over the

scripts and should minimize the boredom associated with skill building. The majority of both the intermediate and junior high exercises dealt with comprehension skills. Exercises dealing with word meaning or use of context clues were most prevalent at both grade levels. The process distribution was much more uneven than the content distribution. The majority of the exercises required the student to use Recognition/Application or Interpretation rather than Analysis or Translation. While it is undoubtedly more difficult to design exercises dealing with more complex abilities which can be keyed for correctness, the effort involved in developing them would insure that the more complex skills received the same emphasis as the simple skills. This should improve the instructional impact considerably. The evaluators recommend that some attention be given to this problem.

In constructing the evaluation sample, an effort was made to find sites which varied from each other on as many educationally relevent dimensions as possible. It is interesting to construct demographic profiles of the six participating sites and see how different the sample populations really were.

Minneapolis had high teacher experience, low minority proportions, and many students from poor families.

Chicago teachers were relatively experienced; in 67% of the schools, half of the teachers had at least six years experience. A very large proportion of the students are minority; in 76% of the schools, more than half of the students were black or Hispanic. The economic level of the families is rather low; in 35% of the schools, half of the families were classified as "low income."

Mount Vernon teacher experience was average, the minority proportion was high and the income level was rated rather high, with relatively few students receiving free lunches.

Pinellas County was clearly the most advantaged group, with high teacher

experience, low minority proportions and relatively few free lunches being dispensed.

The Dallas classes have moderately experienced teachers (though less so than the Minneapolis teachers), and moderately low economic status. The proportion of minority students there is quite high. Bullhead teachers had very little experience, large numbers of minority students, and very low income.

It appears that no two sites are identical in terms of the demographic characteristics, and that the districts range from relatively advantaged to disadvantaged. There are no priveledged classes, however.

# APPENDIX A

## Demographic Survey Questionnaire

# Demographic Survey Questionnaire

Name _____ School _____

Complete the following information for each class or group of students that will be involved in the Television Reading Project

| | | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 |
|---|---|---|---|---|---|---|
| (1) How many students are in the class and will be using the project materials? | | | | | | |
| (2) How many students of each grade level are in the class? | 4th graders | | | | | |
| | 6th graders | | | | | |
| | 7th graders | | | | | |
| | 8th graders | | | | | |
| | | | | | | |
| | | | | | | |
| (3) How many students of each sex are in the class? | Male | | | | | |
| | Female | | | | | |
| (4) How many students of each racial/ethnic background are in the class? | Indian American | | | | | |
| | Black American | | | | | |
| | Asian American | | | | | |
| | Hispanic American | | | | | |
| | White American | | | | | |
| (5) Indicate the approximate time when you will be using the project materials? (e.g. 9:10-10:00) | | | | | | |

| | | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 |
|---|---|---|---|---|---|---|
| (6) How many of the students in the class and using the materials are six months or more below grade level in reading? | | | | | | |
| (7) What is the curriculum or subject area of the class in which the TV reading materials will be used? (Check one of the choices) | Reading | | | | | |
| | English | | | | | |
| | Language Arts | | | | | |
| | | | | | | |
| | | | | | | |
| (8) Which of the following describes the instructional organization of the class? (Check one choice) | Continuous progress | | | | | |
| | Modified open | | | | | |
| | Open | | | | | |
| | Self-contained | | | | | |
| | | | | | | |

(9) Please describe the reading materials used as the primary resource for instruction with members of each class (e.g. basal readers, high interest paperbacks, etc.)

(10) How many years of teaching experience have you had?

_____

## Chapter III

## Effects of the Television Reading Program on Reading Skill Development

To assess the instructional effectiveness of the Television Reading Program it was necessary to measure the vocabulary and comprehension skills of students who had used the materials and compare their scores to those of a group of students who had not used the materials. There are two ways to measure vocabulary information and comprehension ability. Norm-referenced standardized tests are general measures of these skills which are used in all school districts and are readily interpretable by the educational community. They have the advantage of stable measurement properties, due to methodical development techniques, and give a reliable estimate of skill development regardless of the form of instruction. However, because of the broad coverage of skills, these tests are likely to mask specific instructional effects (i.e., improvement in narrowly defined skill areas).

A second type of measure, an objective-referenced test, assesses only the specific skills emphasized in instruction because each test item is related to an outcome which should result in the course of instruction. It has the advantage of a limited test focus and greater face validity with respect to instruction content, but it lacks the generalizability of the norm-referenced test.

In order to provide balanced information about instructional effects, both types of measures were used to evaluate the Television Reading Program.

### Design

Norm-referenced and objective-referenced test data were examined to answer the question "Do students who use the Television Reading Program materials (TVRP classes) have better reading skills than a comparable group of students who do not use the materials (Non-TVRP classes)?". The use of a comparison

group of students gives a reasonably precise picture of what the reading skills would be without the benefit of the program use because it automatically includes the effects of regular instruction which the TVRP classes are also experiencing, and is thus a better basis for comparison than a national norm, or a base-line measure of reading skill prior to program introduction.

TVRP classes volunteered to use the program materials after hearing about them from district administrators. The Non-TVRP classes were either randomly identified from the total number of volunteer teachers (Minneapolis and Pinellas County), or were matched to the TVRP group on the basis of one or more descriptive criteria (Chicago, Mount Vernon, Dallas, and Bullhead City).

In order to obtain adequate power to detect meaningful score differences, a sample size for each group of 20 classes at grades four, six, and eight was specified in the proposal. However, the usual administrative difficulties in field research were encountered. The number of classes in a single cell varied from 14 to 35, and the specification of grades four, six and eight was adhered to in just one of the six sites. However, the number of classes in each cell was large enough for meaningful interpretation and variation in grade levels required only that the data from each site be analyzed separately, as opposed to being treated as replications in a single analysis.

Norm-referenced test data were obtained from four of the six participating sites for TVRP and Non-TVRP classes. These data were routinely collected by the local research offices, therefore the specific test used varied from site to site. Three of the six sites also administered an objective-referenced test to both TVRP and Non-TVRP students. Both the norm-referenced and objective-referenced tests used subtests of multiple choice items to assess vocabulary and comprehension skills.

Consistent with the general design of the evaluation, individual student

subtest scores on both the norm-referenced and objective-referenced tests which were administered at the end of the 1979 school year were aggregated within classes yielding a single class mean which was the unit of analysis. (Class means were used in compensation for being unable to randomly assign students to classes.) Scores were then grouped by grade level and treatment groups and effects were tested with analysis of variance. To insure that the TVRP and Non-TVRP groups were truly comparable, scores from the 1977-78 norm-referenced testing were compared in the same fashion. This was done so that the 1979 scores could be properly adjusted for any inequality.

## Results

The results of the achievement testing done before the TVRP was introduced are presented first to document the relative ability levels of the TVRP and Non-TVRP groups before the instructional treatment.

A second section contains the results of the achievement testing done at the end of the program year and includes both the norm-referenced and objective-referenced test data.

### Pretest Results

Pretest data are presented separately for each site. The discussion includes information about the instrument used and the mean scores for each grade level on each subtest. Results of comparative tests on mean score differences are discussed.

Minneapolis. The Minneapolis Public School System (MPS) administers the Stanford Achievement Test Primary Level 3, Form A to grade 4, Intermediate Level 2, Form A to grade 6, and the Gates McGinitie Reading Test, Survey E- Form 1-M to grades 7 through 12. Testing was scheduled during the week of October 10, immediately before the TVRP classes received the first script materials. The TVRP and Non-TVRP vocabulary, comprehension and word skill scores were solicited

to determine if ability differences existed before the TVRP was introduced. To access individual scores on the three subscales from the data base maintained by INTRAN scoring services for MPS, student identification numbers were required. These were contained in a name-number master list supplied to CERE by the MPS administration and were transferred to lists of student names supplied by participating teachers. Thus it was possible to access individual scores for the members of a single class and to aggregate them according to the design specification. Data transfer to CERE was completed by August 22, 1979.

Means and standard deviations for the TVRP and Non-TVRP Vocabulary, Comprehension and Word Skill scores for grades four, six and eight appear in Table 14. Although the Non-TVRP scores are higher in most cases, the differences are very small. A test of these differences supported this impression. The treatment group scores do not differ significantly, and the two groups appear to be equivalent prior to exposure to the TVRP.

Pinellas County. The Metropolitan Achievement Test Battery was administered to all Pinellas County students in April, 1978. These test scores were solicited for the TVRP and Non-TVRP students from the Office of Research, Evaluation and Data Processing, to determine relative fall academic standing. The Executive Assistant Superintendent for Curriculum and Instruction obtained class lists from each participating teacher which contained the names of all the students in the classes plus the student identification number used in the Pinellas County system. These lists were transferred to magnetic tape at CERE. The tape was then returned to Pinellas County personnel who used the identification number to extract the raw scores for the Word Knowledge, Reading, and Language subscales for each student and add them to the data tape. These scores were received at CERE for analysis on January 15. The means, standard deviations, and sample sizes for the TVRP and Non-TVRP groups appear in Table 15.

Table 14
Minneapolis Pretest Reading Achievement
Score Means, Standard Deviations
and Sample Sizes by Treatment Groups

| Group | Grade Levels 4 | 6 | 8 |
|---|---|---|---|
| **Vocabulary Subtest** | | | |
| TVRP | | | |
| $\bar{X}$ | 26.6(25) | 27.9(42) | 48.8(12) |
| S D | 6.6 | 5.3 | 35.1 |
| Non-TVRP | | | |
| $\bar{X}$ | 26.5 (12) | 28.0(26) | 61.2(11) |
| S D | 4.4 | 3.9 | 36.4 |
| **Comprehension Subtest** | | | |
| TVRP | | | |
| $\bar{X}$ | 38.6 | 37.9 | 29.7 |
| S D | 12.3 | 9.8 | 7.1 |
| Non-TVRP | | | |
| $\bar{X}$ | 42.8 | 38.1 | 27.2 |
| S D | 7.8 | 7.4 | 8.6 |
| **Word Study Subtest** | | | |
| TVRP | | | |
| $\bar{X}$ | 30.1 | 31.1 | * |
| S D | 7.8 | 7.1 | |
| Non-TVRP | | | |
| $\bar{X}$ | 31.6 | 30.3 | * |
| S D | 4.8 | 5.2 | |

* Not applicable

Table 15
Pinellas County Pretest MAT
Achievement Score Means, Standard Deviations
and Sample Sizes (n) Grades Four and Five

| Group | Grade Level 4 | 5 |
|---|---|---|
| **Vocabulary** | | |
| TVRP | | |
| $\bar{X}$ | 33.7(10) | 37.0(11) |
| S D | 3.8 | 3.3 |
| Non-TVRP | | |
| $\bar{X}$ | 32.9(15) | 37.7(13) |
| S D | 2.5 | 3.1 |
| **Comprehension** | | |
| TVRP | | |
| $\bar{X}$ | 26.2 | 30.4 |
| S D | 2.7 | 2.7 |
| Non-TVRP | | |
| $\bar{X}$ | 25.9 | 29.6 |
| S D | 1.9 | 2.5 |
| **Language Use** | | |
| TVRP | | |
| $\bar{X}$ | 32.9 | 36.3 |
| S D | 2.6 | 3.3 |
| Non-TVRP | | |
| $\bar{X}$ | 30.1 | 36.7 |
| S D | 3.1 | 2.6 |

The values for the two Treatment groups differ very little. An analysis of variance confirmed the impression of no practical difference. Scores at grade five are different from grade four scores, but TVRP scores are not different from Non-TVRP scores, nor was there a group by grade interaction (which would indicate a mean difference at one grade level but not at both). It appears that the students in the TVRP and Non-TVRP groups were academically comparable at the start of the 1978 school year.

Dallas. The Iowa Test of Basic Skills is administered to students in Dallas. Scores on the test administered in March, 1978 for the Vocabulary, Comprehension and Language Usage subscales were sought for the students in the TVRP and Non-TVRP classes. The Office of Research and Evaluation requested that participating teachers provide class list with student identification numbers which were used to access the desired scores. These data were received by CERE on magnetic tape on February 22. Means, standard deviations, and sample sizes are displayed in Table 16 for intermediate grades four and six, and grade nine. Dallas testing policy requires "Out-of-level testing," which means that students at a given age level will receive a test which is compatible with general ability, not necessarily the one normed on the comparable age group. Thus, Table 16 also contains score means for each test level administered at each grade level.

The Dallas data are similar to Minneapolis and Pinellas County data. Mean subtest score differences for the TVRP and Non-TVRP groups are quite small. Analyses of variance carried out on the data confirm that the differences are not significant at either grade level, or for any test level. The two groups did not show differences in reading ability at the beginning of the school year.

Chicago. Class lists containing student names and identification numbers were obtained by CERE from participating Chicago teachers. This information was transferred to magnetic tape which was used by the Office of Research and Evaluation

Table 16
Dallas Pretest ITBS Reading Achievement Score Means,
Standard Deviations and Sample Sizes (n)

| Group | Test Level (Grades 4-6) | | | | Test Level (Grade 9) | | | |
|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 11 | 12 | 13 | 14 |
| **Vocabulary** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | 18.2(25) | 16.3(30) | 20.9(29) | 28.1(21) | 3.2(5) | 3.4(7) | 5.3(3) | 1.3(3) |
| S D | 4.3 | 3.9 | 5.4 | 5.0 | 3.9 | 5.2 | 6.7 | .6 |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | 19.4(27) | 15.0(26) | 24.2(23) | 27.6(22) | 1.7(3) | 1.3(4) | 1.5(2) | 3.3(3) |
| S D | 2.5 | 3.6 | 3.1 | 6.1 | .6 | .5 | .7 | 4.0 |
| **Comprehension** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | 41.8 | 26.8 | 35.4 | 40.4 | 18.9(10) | 20.7(16) | 29.5(15) | 29.1(12) |
| S D | 7.9 | 7.6 | 8.6 | 8.5 | 7.5 | 4.5 | 8.8 | 10.7 |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | 44.9 | 24.5 | 36.5 | 42.6 | 27.3(6) | 24.3(16) | 31.3(16) | 31.1(14) |
| S D | 4.7 | 5.5 | 5.9 | 10.9 | 12.2 | 9.3 | 7.3 | 11.7 |
| **Word Skill** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | * | 13.9 | 14.4 | 18.1 | * | * | * | * |
| S D | | 4.1 | 5.3 | 4.5 | | | | |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | * | 13.2 | 15.3 | 16.6 | * | * | * | * |
| S D | | 3.6 | 5.0 | 4.0 | | | | |

*Not applicable.

to access vocabulary and comprehension scores. Scores for TVRP and Non-TVRP students were transferred on magnetic tape to CERE on September 28.

Table 17 summarizes pretest data obtained from Chicago. Mean vocabulary and comprehension Spring 1978 Chicago standard subscale scores on the Iowa Test of Basic Skills are presented for each age cycle. The use of the standard scores allows comparisons to be made across age cycles without regard to the test level administered. By virtue of the conversion from raw to standard scores, the scores are on a common metric with a mean of 250 and a standard deviation of 21.6. The age cycle of the student is calculated as the age of the student as of December 1 of the fiscal year minus one (for 1979, the age would be calculated as of December 1, 1978). It is common for a single class to contain students from several age cycles, thus grouping the test scores by age cycle ignores the teacher effect, which is accounted for in the data from other sites by combining students from different classes according to chronological ages. Students were not randomly assigned to classes, therefore a systematic bias may affect the results of the test score comparisons.

Although 6,237 students were identified as TVRP or Non-TVRP participants, data were not analyzed for all these students. Age cycle information was missing for 19.4% and 6.2% of the TVRP and Non-TVRP groups, respectively. In some cases, vocabulary or comprehension scores were missing for certain students. From six to nineteen percent of the vocabulary scores were missing in certain age cycles. Overall, vocabulary scores were obtained for 93 percent of the students. The proportion of comprehension scores which were missing at each age cycle ranges from five to 20 percent. Scores were available for 92 percent of all the students.

Inspection of the data on Table 17 suggests that the Non-TVRP test scores are superior to the TVRP scores for both the vocabulary and comprehension subtests at all age cycles. An analysis of variance confirms that these differences are

Table 17
Chicago Pretest ITBS Vocabulary and Comprehension Mean Scores[1]
and Sample Sizes (n) for Age Cycles Eight to Fourteen,
and Analysis of Variance Summary Table

| Group | Age Cycle 8 | 9 | 10 | 11 | 12 | 13 | 14 | AOV Summary Table Source | df | Mean Square | F | p |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vocabulary** | | | | | | | | | | | | |
| TVRP | 249.1 (118) | 252.3 (122) | 247.9 (251) | 251.1 (284) | 248.2 (368) | 249.9 (495) | 232.8 (83) | Treatment (T) | 1 | 292.97 | 12.62 | <.01 |
| | | | | | | | | Age Cycle | 6 | 122.39 | 5.273 | <.03 |
| N-TVRP | 272.1 (44) | 261.4 (328) | 259.6 (480) | 257.6 (838) | 254.0 (1185) | 251.7 (179) | 239.0 | | | | | |
| | | | | | | | | Error | 6 | 23.32 | | |
| **Comprehension** | | | | | | | | | | | | |
| TVRP | 247.8 (115) | 249.7 (122) | 247.1 (249) | 251.1 (286) | 249.7 (366) | 250.3 (496) | 234.5 (83) | Treatment (T) | 1 | 350.66 | 12.06 | <.01 |
| | | | | | | | | Age Cycle | 6 | 97.15 | 3.34 | >.08 |
| N-TVRP | 273.7 (45) | 260.6 (325) | 258.7 (480) | 257.4 (845) | 255.3 (1000) | 253.2 (1194) | 241.3 (179) | | | | | |
| | | | | | | | | Error | 6 | 29.07 | | |

[1]Chicago standard scores, local normal curve equivalent, mean=250, SD=21.60

[2]Age of student as of Dec. 1, of one minus the fiscal year.

significant. Thus the two groups of students were not academically equivalent before the Television Reading Program was introduced.

A significant age effect was also obtained, verifying the assumption that older students perform better than younger ones on achievement tests.

The analysis of norm-referenced pretests in Minneapolis, Pinellas, and Dallas confirms that the TVRP and Non-TVRP groups were not significantly different prior to the use of the TVRP.

As we shall see, subsequent analyses reveals the advantage of the Non-TVRP over the TVRP group in Chicago was eliminated by use of TVRP.

No achievement data are available for either Mount Vernon or Bullhead City. Mount Vernon administrators assured Capital Cities and CERE that the relevant data would be released during the Spring or Summer of 1979, but ultimately declined to honor the agreement. Bullhead City does no general testing, therefore, there were no scores to compare.

Posttest Results: Norm-Referenced

Assessment of reading skill levels following the use of the TVRP was conducted in all sites except Mount Vernon. TVRP and Non-TVRP groups were compared in the same way as comparisons were made on pretest data. Analyses of variance assessed the effects of group membership, and grade level on test performance. Of particular interest in interpreting the instructional effects of program use were the possible score differences for program users and non-users and also an interaction between the use of the program and grade level.

There were two reasons to examine this interaction effect. Use of the program materials was somewhat lower in the junior high classes, so it is possible that effects of achievement would be stronger at the intermediate grade level. Also, reports that the materials were too difficult for the students to read came primarily from fourth grade teachers, so it is possible that sixth grade

classes would benefit more from using the materials than the fourth grade classes.

Both Pinellas County and Dallas furnished CERE with norm-referenced test data from the routine testing conducted in the Spring of 1979. Both sites preferred not to use the objective-referenced test because of the heavy testing programs already under way in the districts.

Pinellas County. Pinellas County administered the Metropolitan Achievement Test Battery, Form G (grade four) and Form E (grade six) in April of 1979. The Vocabulary, Comprehension, and Word Usage subtest scores for each student were accessed and transferred to CERE in the manner described above for the pretest data and were received on September 17. Summary statistics for these data appear in Table 18. As with the pre-test data, the scores for the TVRP and Non-TVRP groups are highly similar. In all cases the difference is less than two points. The analysis of variance results showed no effects for treatment group, confirming visual impressions. The test of the interaction between grade level and program use was also not significant. A trend to better performance for the TVRP group does appear in the data, however. TVRP scores are higher in 11 of 12 comparisons.

Dallas. The Dallas Independent School District administered the Iowa Test of Basic Skills, Form 5, levels eight to 14 in March, 1979. Individual vocabulary, comprehension and word study scores were accessed as described above for the pretest data and were transferred to CERE on June 22. Summary statistics for these data are presented in Table 19. Ninth grade students did not take a word skill subtest, and level eight of the ITBS does not require the use of that subtest, so these scores do not appear in the Table. Testing was completed on several days during the same week in which norming data were gathered. Thus, because of absences, not all students received a score for each subtest. In particular, for grade nine, there are fewer scores for the Vocabulary subtest

Table 18

Pinellas County Posttest MAT Achievement Score Means, Standard Deviations and Sample Sizes (n) Grades Four and Five

| Group | Grade Level 4 | 5 |
|---|---|---|
| **Vocabulary** | | |
| TVRP | | |
| $\bar{X}$ | 35.9(10) | 27.7(11) |
| S D | 2.9 | 3.3 |
| Non-TVRP | | |
| $\bar{X}$ | 34.8(15) | 26.9(13) |
| S D | 5.2 | 3.0 |
| **Comprehension** | | |
| TVRP | | |
| $\bar{X}$ | 28.4 | 24.1 |
| S D | 2.9 | 2.4 |
| Non-TVRP | | |
| $\bar{X}$ | 27.6 | 23.3 |
| S D | 4.2 | 2.9 |
| **Word Usage** | | |
| TVRP | | |
| $\bar{X}$ | 33.6 | 60.1 |
| S D | 3.2 | 5.8 |
| Non-TVRP | | |
| $\bar{X}$ | 33.2 | 58.5 |
| S D | 4.9 | 6.9 |

Table 19
Dallas Posttest ITBS Reading Achievement Score Means,
Standard Deviations and Sample Size (n)

| Group | Test Level (Grades 4-6) | | | | Test Level (Grade 9) | | | |
|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 11 | 12 | 13 | 14 |
| **Vocabulary** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | 15.2(25) | 14.4(30) | 13.5(27) | 18.8(21) | 5.1(8) | 6.0(16) | 6.7(14) | 8.5(11) |
| S D | 4.9 | 5.7 | 9.4 | 8.4 | .8 | 1.5 | 3.5 | 4.1 |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | 16.6(27) | 15.7(26) | 13.7(23) | 16.9(22) | 5.3(3) | 6.0(12) | 8.6(14) | 8.6(14) |
| S D | 2.9 | 6.3 | 8.9 | 9.3 | .6 | 2.0 | 2.5 | 4.1 |
| **Comprehension** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | 24.2 | 21.3 | 18.3 | 25.0 | 9.5 | 9.6 | 10.6 | 11.5 |
| S D | 7.8 | 7.9 | 12.9 | 13.2 | 1.7 | 2.7 | 3.8 | 3.9 |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | 26.7 | 21.8 | 18.2 | 23.1 | 11.3 | 10.1 | 12.8 | 11.6 |
| S D | 4.7 | 5.8 | 12.7 | 13.1 | 2.1 | 3.3 | 2.7 | 4.1 |
| **Word Skill** | | | | | | | | |
| TVRP | | | | | | | | |
| $\bar{X}$ | 12.7 | 8.9 | 7.7 | 11.2 | * | * | * | * |
| S D | 3.6 | 3.6 | 5.6 | 5.4 | | | | |
| Non-TVRP | | | | | | | | |
| $\bar{X}$ | 14.4 | 10.2 | 8.3 | 10.7 | * | * | * | * |
| S D | 2.4 | 3.3 | 5.0 | 5.7 | | | | |

*Not applicable.

than for the Comprehension subtest. Analyses were carried out separately for the intermediate and junior high grade levels. Within each grade level, scores were grouped by treatment group (TVRP, Non-TVRP) and by test level (levels eight to eleven, for the intermediate grades and 11 through 14 for grade nine). Careful matching done by Dallas personnel provided sample sizes for each test level which were nearly equal.

Analyses of variance results yielded no significant effects for treatment group at either grade level for any of the subtests. These data are consistent with the Pinellas County data. In cells with samples greater than ten, the mean score differences are about two points. Fewer than half of the comparisons show an advantage for the TVRP group.

Given the assumptions of equivalence of the TVRP and Non-TVRP classes and that the major differential intervening event was the use of TVRP materials, the Dallas norm-referenced achievement data do not give evidence that reading achievement is positively affected by use of the TVRP.

Chicago. The mean scores for Vocabulary and Comprehension and number of students completing the 1979 ITBS tests are listed in Table 20. The scores are organized by group (TVRP or Non-TVRP) and Age Cycle (8-14). Inspection suggests consistently higher mean scores for the Non-TVRP group for both Vocabulary and Comprehension. This difference is statistically significant as noted in the Analysis of Variance Summary portion of Table 20.

Two explanations for the higher posttest scores on the part of the Non-TVRP group must be considered. Either the TVRP materials depressed the performance of the TVRP group or the Non-TVRP group had higher reading achievement scores before the TVRP materials were used. Inspection of Table 17 indicates that the latter was the case.

Table 20
Chicago Posttest ITBS Vocabulary and Comprehension Mean Scores[1]
and Sample Sizes (n) for Age Cycles Eight to Fourteen,
and Analysis of Variance Summary Table

| | Age Cycle | | | | | | | AOV Summary Table[2] | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8 | 9 | 10 | 11 | 12 | 13 | 14 | Source | df | Mean Square | F | p |
| **Vocabulary** | | | | | | | | | | | | |
| TVRP | 249.3 (141) | 252.6 (148) | 250.0 (283) | 251.7 (309) | 249.5 (390) | 253.7 (520) | 237.4 (98) | Treatment(T) | 1 | 296.35 | 9.17 | <.03 |
| | | | | | | | | Age Cycle | 6 | 92.26 | 2.86 | >.11 |
| N-TVRP | 275.9 (47) | 261.7 (345) | 259.6 (515) | 257.5 (893) | 254.6 (1048) | 256.1 (1247) | 243.3 (200) | Error | 6 | 32.31 | | |
| **Comprehension** | | | | | | | | | | | | |
| TVRP | 248.9 (140) | 251.6 (149) | 247.5 (283) | 252.7 (310) | 249.8 (393) | 253.9 (521) | 236.9 (99) | Treatment(T) | 1 | 307.07 | 13.91 | <.01 |
| | | | | | | | | Age Cycle | 6 | 76.90 | 3.48 | >.07 |
| N-TVRP | 272.1 (47) | 260.6 (344) | 259.0 (516) | 258.4 (895) | 255.6 (1048) | 256.9 (1267) | 244.3 (204) | Error | 6 | 22.08 | | |

[1]Chicago scale scores, $\bar{X}$=250, S.D.=21.5

[2]Unit of analysis is mean score within group and age cycle.

As a further check, a statistical technique which eliminates the pretest differences from the posttest results was run. This technique, called multiple regression, revealed that the pretest scores on both Vocabulary and Comprehension accounted for most of the variation in posttest scores and membership in TVRP or Non-TVRP accounted for none.

In summary, there is no evidence that the TVRP had any measurable effect on reading achievement scores as measured by the ITBS Vocabulary and Comprehension subscales. As we shall see in the next section, however, the advantage of the Non-TVRP group on pretest scores was completely eliminated and reversed on the objective-referenced test results.

Objective-Referenced Posttest

The general applicability of the norm-referenced tests limits the precision with which improvement in specific skill areas can be measured. An objectives-referenced test, focusing only on the skills receiving instructional emphasis should provide a more sensitive assessment in specific skill areas than the norm-referenced tests administered in most schools. By incorporating tests of skills related to the TVRP, a more precise estimate of instructional effects is possible.

The Objectives Referenced Bank of Items and Tests (ORBIT) maintained by California Test Bureau/McGraw-Hill Publishing Company allows the selection of test items which are directly related to instruction. Items for evaluating the TVRP consistent with the instructional objectives derived from the content analysis of the exercises described above were selected from the item pool based on the assumption that certain ORBIT instructional objectives would be met as students completed the TVRP script exercises, and that the items related to these objectives would provide a logically sound and fair means of assessing instructional impact. Table 21 lists the six instructional objectives defined

Table 21
Correlation Between Six Objectives of the TVRP
and ORBIT Subscales and ORBIT Test Items

| TVRP Objective | Subscale[1] | ORBIT Objectives[2] | TVRP Objective | Subscale[1] | ORBIT Objectives[2] |
|---|---|---|---|---|---|
| 1. Given a sentence containing an underlined word and a choice of four words the student will identify synonym for the underlined word. | 1 | Objective 17a | 4. Given a paragraph to read, students will be able to identify the main idea (s) from a number of alternatives. | 7 | 29a |
| 2. The student will use context to identify words that best complete incomplete sentences. | 2,3,4 | Objectives 20, 21,22 | 5. Given a reading passage, students will use story clues to identify the answer to a question that requires an inference or conclusion to be drawn. | 8 | 29b |
| 3. Given a paragraph to read, students will be able to answer literal recall questions correctly. | 5,6 | Objectives 25, 25b | 6. Given a passage to read, students will be able to identify descriptive words that define attributes of a person or the emotions experienced in the passage. | 9 | 33b |

[1] See Table 22

[2] See ORBIT Test, Appendix A

by the script exercise content analysis, the number of test items selected for each objective, and a sample item from each set. Note that three subscales test the use of context clues to define terms. Readability estimates for the three grade levels are four, six and nine, respectively. All three were included because of the relatively heavy emphasis placed on this skill reported by teachers at all grade levels on the Program Questionnaires. Readability estimates are grade six for all other subscale items. The complete test is contained in Appendix A.

The booklets composed of the selected test items were completed by TVRP and Non-TVRP classes during March and April in Minneapolis, Chicago, and Bullhead City. Test materials were distributed and collected by United Parcel Service who made deliveries directly to schools. Data from completed test booklets were entered into computer storage files for aggregation and analysis. Relative performance of the TVRP and Non-TVRP groups was assessed in the same manner as performance on the norm-referenced tests. Mean scores for the nine subscales and for the total score were calculated for the TVRP and Non-TVRP groups within each site for each grade level.

Table 22 contains means, standard deviations, and reliability estimates for subscale and total scores for Minneapolis, Chicago, and Bullhead City. Data were collapsed across grade level. Minneapolis and Chicago means are highly similar, but are substantially lower than Bullhead City figures.

Total score reliability estimates are higher than subscale estimates, due chiefly to smaller number of items in the individual subscales used in calculating the estimates. The calculation of total score reliability is based on all 36 items. Total score reliability estimates for Minneapolis and Chicago sites are respectably high. The Bullhead City estimate is not acceptable, but the number of students completing the test was only one-tenth as great as the number in Minneapolis, which may account for the difference in values.

Table 22
Objective-referenced Test Descriptive Statistics
Means, Standard Deviations and Reliability Estimates[1] for Nine Subscales and the Total Score
for Minneapolis, Chicago, and Bullhead City

| | | | Sites | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Minneapolis[2] | | | Chicago[3] | | | Bullhead City[4] | | |
| Scale | Items | Name | $\bar{X}$ | s | $r_{xx}$ | $\bar{X}$ | s | $r_{xx}$ | $\bar{X}$ | s | $r_{xx}$ |
| 1 | 4 | Synonyms | 2.7 | 1.0 | .38 | 2.6 | 1.0 | .37 | 3.2 | 0.9 | .36 |
| 2 | 4 | Context Clues (4) | 3.7 | 0.7 | .54 | 3.5 | 0.8 | .51 | 3.9 | 0.4 | .48 |
| 3 | 4 | Context Clues (6) | 1.9 | 1.2 | .59 | 2.0 | 1.2 | .53 | 2.9 | 0.8 | .41 |
| 4 | 4 | Context Clues (9) | 2.3 | 1.2 | .63 | 2.4 | 1.2 | .59 | 3.6 | 0.7 | .44 |
| 5 | 4 | Facts | 3.3 | 1.1 | .66 | 3.4 | 0.9 | .60 | 3.8 | 0.6 | .38 |
| 6 | 4 | Events | 3.1 | 1.2 | .69 | 2.8 | 1.1 | .54 | 3.7 | 0.7 | .52 |
| 7 | 4 | Main idea | 2.9 | 1.2 | .63 | 3.2 | 1.1 | .63 | 3.4 | 1.0 | .60 |
| 8 | 4 | Inference | 1.5 | 1.1 | .43 | 1.5 | 1.1 | .31 | 2.0 | 1.1 | .41 |
| 9 | 4 | Character | 1.8 | 1.3 | .53 | 1.9 | 1.2 | .72 | 2.3 | 1.3 | .83 |
| 10 | 36 | Totals | 23.1 | 7.3 | .90 | 23.4 | 6.7 | .88 | 28.6 | 4.4 | .81 |

[1]Cronbach Alpha, LIKRT Format
[2]n=1,634 respondents
[3]n=1,979 respondents
[4]n=199 respondents

In general, subscale scores reflect the results of the Program Questionnaire analyses that instructional emphasis was greater for less complex skills. Scores for subscales eight and nine (drawing inferences and characterization) are low in all three sites, while identifying the main idea and recalling facts (subscales five and seven, respectively) show consistently higher scores. The highest subscale means are for the grade four context clues subtest, confirming that the test was substantially easier than the other scales which are written with grade six vocabularies.

Minneapolis. Table 23 illustrates the mean total score and nine subscale mean scores along with the analysis of variance summary tables showing the effects of the TVRP on test performance. TVRP group scores were significantly higher on the total score and on seven of the nine subscale scores. Scores on item testing comprehension of facts and drawing inferences were not statistically different for the two groups, but in both cases, the TVRP scores were slightly higher than Non-TVRP scores at all grade levels.

Chicago. Table 24 contains similar information for the Chicago classes. Again, total test scores as well as seven of the nine subscale scores were significantly higher for the TVRP group. Differences were not significant on the Drawing Inferences and the Characterization subscales though again, TVRP scores were higher than Non-TVRP scores at all grade levels (except grade four, subscale nine).

Bullhead City. Total and subscale mean scores for the Bullhead City classes are presented in Table 25. No significant differences were found between TVRP and Non-TVRP groups, nor were the interactions significant. Non-TVRP group had higher mean scores as often as the TVRP group. Interpretation of this data is difficult owing to the small sample size. No statements can be made about the effects of the program use on achievement.

Table 23
Minneapolis Objective-referenced Test Means, Sample Sizes[1] (n) and Analysis of Variance[2] Results
Total Score and Subscales Scores for Grades Four, Six and Eight

| Group | Grade Level 4 | 6 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | **Total Score** | | | | |
| TVRP | 20.2(17) | 23.6(45) | 26.3(17) | 23.45 | Treatment(T) | 1 | 86.48 | 7.03 | <.009 |
| Non-TVRP | 17.6(13) | 22.3(28) | 24.9(13) | 21.79 | Grade(G) | 2 | 422.12 | 34.32 | <.000 |
| | | | | | TXG | 2 | 4.31 | .35 | >.705 |
| | | | | | Error | 127 | 12.30 | | |
| | | | | | **Subscale 1 (Synonyms)** | | | | |
| TVRP | 2.4 | 2.7 | 3.1 | 2.7 | Treatment(T) | 1 | 1.16 | 6.98 | <.009 |
| Non-TVRP | 2.2 | 2.5 | 2.8 | 2.5 | Grade(G) | 2 | 4.16 | 25.08 | <.000 |
| | | | | | TXG | 2 | 0.01 | 0.05 | >.04 |
| | | | | | Error | 127 | 0.71 | | |
| | | | | | **Subscale 2 (Context Clues 4)** | | | | |
| TVRP | 3.0 | 3.7 | 3.8 | 3.5 | Treatment(T) | 1 | 0.44 | 7.19 | <.008 |
| Non-TVRP | 3.3 | 3.6 | 3.9 | 3.6 | Grade(G) | 2 | 1.50 | 24.65 | <.000 |
| | | | | | TXG | 2 | 0.20 | 3.31 | >.04 |
| | | | | | Error | 127 | 0.06 | | |
| | | | | | **Subscale 3 (Context Clues 6)** | | | | |
| TVRP | 1.5 | 1.9 | 2.4 | 1.9 | Treatment(T) | 1 | 1.30 | 4.67 | <.033 |
| Non-TVRP | 1.1 | 1.7 | 2.4 | 1.7 | Grade(G) | 2 | 11.29 | 40.71 | <.000 |
| | | | | | TXG | 2 | 0.23 | 0.82 | >.445 |
| | | | | | Error | 127 | 0.28 | | |

Table 23 (continued)

| Group | Grade Level 4 | 6 | 8 | X | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|
| **Subscale 4 (Context Clues 9)** | | | | | | | | | |
| TVRP | 1.8 | 2.3 | 2.9 | 2.3 | Treatment(T) | 1 | 1.63 | 5.80 | <.017 |
| Non-TVRP | 1.3 | 2.2 | 2.8 | 2.1 | Grade(G) | 2 | 15.39 | 54.66 | <.000 |
| | | | | | TXG | 2 | 0.37 | 1.30 | >.275 |
| | | | | | Error | 127 | 0.28 | | |
| **Subscale 5 (Facts)** | | | | | | | | | |
| TVRP | 2.9 | 3.3 | 3.6 | 3.3 | Treatment(T) | 1 | 0.26 | 1.43 | >.233 |
| Non-TVRP | 2.8 | 3.2 | 3.5 | 3.2 | Grade(G) | 2 | 4.08 | 22.32 | <.000 |
| | | | | | TXG | 2 | 0.01 | 0.06 | >.939 |
| | | | | | Error | 127 | 0.18 | | |
| **Subscale 6 (Events)** | | | | | | | | | |
| TVRP | 2.8 | 3.2 | 3.3 | 3.1 | Treatment(T) | 1 | 1.91 | 6.46 | <.012 |
| Non-TVRP | 2.5 | 3.0 | 3.0 | 2.8 | Grade(G) | 2 | 3.21 | 10.83 | <.000 |
| | | | | | TXG | 2 | 0.07 | 0.24 | >.789 |
| | | | | | Error | 127 | 0.30 | | |
| **Subscale 7 (Main Idea)** | | | | | | | | | |
| TVRP | 2.5 | 3.0 | 3.2 | 2.9 | Treatment(T) | 1 | 1.71 | 6.40 | <.013 |
| Non-TVRP | 2.2 | 2.8 | 3.0 | 2.7 | Grade(G) | 2 | 4.92 | 18.45 | <.000 |
| | | | | | TXG | 2 | 0.09 | 0.34 | >.713 |
| | | | | | Error | 127 | 0.27 | | |

Table 23 (continued)

| Group | Grade Level 4 | 6 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Subscale 8 (Inference) | | | | |
| TVRP | 1.1 | 1.5 | 1.9 | 1.5 | Treatment(T) | 1 | 0.59 | 2.63 | >.107 |
| Non-TVRP | 1.0 | 1.4 | 1.7 | 1.4 | Grade(G) | 2 | 5.30 | 23.77 | <.000 |
| | | | | | TXG | 2 | 0.02 | 0.10 | >.902 |
| | | | | | Error | 127 | 0.22 | | |
| | | | | | Subscale 9 (Character) | | | | |
| TVRP | 1.6 | 1.9 | 2.2 | 1.9 | Treatment(T) | 1 | 1.39 | 5.46 | <.021 |
| Non-TVRP | 1.3 | 1.8 | 2.0 | 1.7 | Grade(G) | 2 | 3.37 | 13.29 | <.000 |
| | | | | | TXG | 2 | 0.09 | 0.34 | >.715 |
| | | | | | Error | 127 | 0.25 | | |

[1]Class mean scores as sampling unit

[2]Unweighted means Analysis of Variance

Table 24
Chicago Objective-referenced Test Means[1] and Analysis of Variance Results
Total and Subscale Scores for Grades Four, Five, Six, Seven and Eight

| Group | Grade Level 4 | 5 | 6 | 7 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TVRP | 18.5 | 21.1 | 23.8 | 24.8 | 26.8 | 23.93 | Treatment(T) | 1 | 103.4 | 8.97 | <.003 |
| Non-TVRP | 15.6 | 19.1 | 22.7 | 23.0 | 25.2 | 22.06 | Grade(G) | 4 | 277.1 | 24.03 | <.000 |
| | | | | | | | TXG | 4 | 2.4 | 0.21 | >.935 |
| | | | | | | | Error | 120 | 11.5 | | |
| | | | | | | | Subscale 1 (Synonyms) | | | | |
| TVRP | 2.5 | 2.5 | 2.8 | 2.7 | 3.1 | 2.7 | Treatment(T) | 1 | 2.54 | 15.20 | <.000 |
| Non-TVRP | 2.0 | 2.2 | 2.6 | 2.5 | 2.8 | 2.4 | Grade(G) | 4 | 1.84 | 10.98 | <.000 |
| | | | | | | | TXG | 4 | 0.08 | 0.46 | >.768 |
| | | | | | | | Error | 120 | 0.17 | | |
| | | | | | | | Subscale 2 (Context Clues 4) | | | | |
| TVRP | 3.3 | 3.4 | 3.6 | 3.6 | 3.8 | 3.5 | Treatment(T) | 1 | 1.32 | 11.31 | <.001 |
| Non-TVRP | 2.7 | 3.3 | 3.5 | 3.5 | 3.6 | 3.3 | Grade(G) | 1 | 1.47 | 12.55 | <.000 |
| | | | | | | | TXG | 4 | 0.27 | 2.27 | >.066 |
| | | | | | | | Error | 120 | 0.12 | | |

Table 24 (continued)

| Group | Grade Level 4 | 5 | 6 | 7 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Subscale 3 (Context Clues 6)** | | | | | | | | | | | |
| TVRP | 1.3 | 1.6 | 2.0 | 2.1 | 2.5 | 1.9 | Treatment(T) | 1 | 2.11 | 8.11 | <.005 |
| Non-TVRP | 0.9 | 1.4 | 1.7 | 1.9 | 2.2 | 1.6 | Grade(G) | 1 | 5.66 | 21.81 | <.000 |
| | | | | | | | TXG | 4 | 0.05 | 0.19 | >.941 |
| | | | | | | | Error | 120 | 0.26 | | |
| **Subscale 4 (Context Clues 9)** | | | | | | | | | | | |
| TVRP | 1.7 | 1.9 | 2.4 | 2.6 | 2.9 | 2.3 | Treatment(T) | 1 | 1.85 | 6.61 | <.011 |
| Non-TVRP | 1.3 | 1.7 | 2.3 | 2.4 | 2.6 | 2.1 | Grade(G) | 1 | 6.52 | 23.23 | <.000 |
| | | | | | | | TXG | 4 | 0.05 | 0.19 | >.943 |
| | | | | | | | Error | 120 | 0.28 | | |
| **Subscale 5 (Facts)** | | | | | | | | | | | |
| TVRP | 3.0 | 3.3 | 3.5 | 3.6 | 3.7 | 3.4 | Treatment(T) | 1 | 0.88 | 7.57 | <.007 |
| Non-TVRP | 2.7 | 3.1 | 3.4 | 3.4 | 3.6 | 3.2 | Grade(G) | 1 | 2.19 | 18.85 | <.000 |
| | | | | | | | TXG | 4 | 0.04 | 0.32 | >.864 |
| | | | | | | | Error | 120 | 0.12 | | |

Table 24 (continued)

| Group | Grade Level 4 | 5 | 6 | 7 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Subscale 6 (Events)** | | | | | | | | | | | |
| TVRP | 2.5 | 3.0 | 3.3 | 3.5 | 3.5 | 3.2 | Treatment(T) | 1 | 1.52 | 7.88 | <.006 |
| Non-TVRP | 2.1 | 2.8 | 3.2 | 3.1 | 3.4 | 2.9 | Grade(G) | 1 | 4.97 | 25.68 | <.000 |
| | | | | | | | TXG | 4 | 1.01 | 0.52 | >.720 |
| | | | | | | | Error | 120 | 0.19 | | |
| **Subscale 7 (Main Idea)** | | | | | | | | | | | |
| TVRP | 2.1 | 2.6 | 2.9 | 3.1 | 3.2 | 2.8 | Treatment(T) | 1 | 1.70 | 8.38 | <.005 |
| Non-TVRP | 1.7 | 2.3 | 2.7 | 2.8 | 3.1 | 2.5 | Grade(G) | 1 | 4.99 | 24.45 | <.000 |
| | | | | | | | TXG | 4 | 0.07 | 0.34 | >.848 |
| | | | | | | | Error | 120 | 0.21 | | |
| **Subscale 8 (Inference)** | | | | | | | | | | | |
| TRVP | 1.1 | 1.2 | 1.5 | 1.6 | 1.9 | 1.5 | Treatment(T) | 1 | 0.67 | 3.49 | >.064 |
| Non-TVRP | 1.0 | 1.0 | 1.3 | 1.4 | 1.7 | 1.3 | Grade(G) | 1 | 2.18 | 11.37 | <.000 |
| | | | | | | | TXG | 4 | 0.00 | 0.03 | >.999 |
| | | | | | | | Error | 120 | 0.19 | | |

Table 24 (continued)

| Group | Grade Level 4 | 5 | 6 | 7 | 8 | $\bar{X}$ | Analysis of Variance Summary Table Source | df | M Square | F | p |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Subscale 9 (Character) | | | | |
| TVRP | 1.1 | 1.6 | 1.9 | 2.1 | 2.2 | 1.8 | Treatment(T) | 1 | 0.10 | 0.41 | >.524 |
| Non-TVRP | 1.3 | 1.4 | 2.0 | 1.8 | 2.2 | 1.7 | Grade(G) | 1 | 3.85 | 16.16 | <.000 |
| | | | | | | | TXG | 4 | 0.17 | 0.17 | >.589 |
| | | | | | | | Error | 120 | 0.24 | | |

[1]Class mean score as sampling unit

[2]Unweighted means Analysis of Variance

Table 25
Bullhead City Objective-referenced Test Means, Sample Sizes[1] (n), Total and Subscale Scores, Grades Nine and Eleven

| Group | Grade Level 9 | 11 | $\bar{X}$ |
|---|---|---|---|
| **Total** | | | |
| TVRP | 27.7(4) | 29.6(2) | 28.65 |
| Non-TVRP | 28.8(2) | 30.3(1) | 29.55 |
| **Subscale 1 (Synonyms)** | | | |
| TVRP | 3.1 | 3.2 | 3.15 |
| Non-TVRP | 3.1 | 3.2 | 3.15 |
| **Subscale 2 (Context Clues 4)** | | | |
| TVRP | 3.9 | 4.0 | 3.95 |
| Non-TVRP | 3.8 | 3.9 | 3.85 |
| **Subscale 3 (Context Clues 6)** | | | |
| TVRP | 2.8 | 3.0 | 2.90 |
| Non-TVRP | 2.9 | 3.0 | 2.95 |

Table 25 (continued)

| Group | Grade Level 9 | 11 | $\bar{X}$ |
|---|---|---|---|
| **Subscale 4 (Context Clues 9)** | | | |
| TVRP | 3.5 | 3.6 | 3.55 |
| Non-TVRP | 3.6 | 3.9 | 3.75 |
| **Subscale 5 (Facts)** | | | |
| TVRP | 3.8 | 3.8 | 3.80 |
| Non-TVRP | 3.7 | 3.9 | 3.80 |
| **Subscale 6 (Events)** | | | |
| TVRP | 3.6 | 3.8 | 3.70 |
| Non-TVRP | 3.7 | 3.8 | 3.75 |
| **Subscale 7 (Main Idea)** | | | |
| TVRP | 3.2 | 3.5 | 3.35 |
| Non-TVRP | 3.5 | 3.5 | 3.50 |
| **Subscale 8 (Inference)** | | | |
| TVRP | 1.8 | 2.2 | 2.00 |
| Non-TVRP | 1.9 | 2.3 | 2.10 |

Table 25 (continued)

| Group | Grade Level 9 | 11 | $\bar{X}$ |
|---|---|---|---|
| Subscale 9 (Character) | | | |
| TVRP | 2.1 | 2.4 | 2.25 |
| Non-TVRP | 2.5 | 2.7 | 2.60 |

[1]Class mean scores as sampling unit

[2]Unweighted mean Analysis of Variance

## Discussion

Because TVRP and Non-TVRP class achievement scores did not differ when use of the Television Reading Program began, any differences found in achievement at the end of the year may be attributed with some confidence to the use of the materials. The significantly higher scores on the objective-referenced test for the classes using the Television Reading Program indicates that use of these materials facilitates learning in the skill areas receiving instructional emphasis. It is especially significant that the TVRP mean scores are highest on the scales measuring the skill areas receiving the greatest emphasis (according to the Program Questionnaire results). The subscales testing skill areas identified as receiving less emphasis (i.e., the more cognitively complex areas of comprehension) showed no differences between the TVRP and Non-TVRP groups.

The superior scores for the TVRP classes are particularly impressive because the Non-TVRP students were not "control" students, in the experimental sense. They were receiving instruction in the same skills emphasized in the TVRP during regular reading instruction which are incorporated in every instructional package on the market. Therefore, the observed difference in scores reflects the additional benefit to students who used the materials beyond which would be expected from standard instruction.

The objective-referenced test is a more sensitive measure of instructional effects than the norm-referenced test. The performance of TVRP and Non-TVRP groups on the norm-referenced test did not differ significantly. This may be because norm-referenced test items incorporate more than one skill per item, so that, for instance, a correct answer to one question may require both a memory for facts and the ability to draw inferences. These tests may also test skills which are not drilled during instruction and are irrelevant to the

question of instructional impact. Low scores on these items when averaged with others may mask evidence of positive effects. In contrast, the objective-referenced test items are more skill-specific, and all items on the test reflect the content of instruction. This may explain why the TVRP group appears superior when judged by one set of scores but not by another set. The objective-referenced test, which is most directly related to instruction, is logically the most appealing yardstick to use. However, the absence of a difference on the norm-referenced test indicates TVRP instructional emphasis should be broadened, either through an expanded range of skill-building exercises, greater student exposure to all the exercises already available, teacher training in optimal use of the materials, or a combination of all three remedies.

Although the TVRP mean total scores are significantly higher than the Non-TVRP scores, the absolute difference is just 2.38 on a thirty-six item scale. The mean score for the test is 23.26 items correct. The two point difference is about a ten percent advantage for the TVRP group. There are no rules for defining an educationally significant score difference, and it is true that trivial absolute differences can be statistically significant, given adequately large samples. However, Horst and Tallmadge (1975) suggest that a score difference which exceeds one-third of a standard deviation should be considered educationally significant. The standard deviation, computed for all sites is 6.95, and 2.38 is 34% of 6.95. Thus, this score difference can be considered educationally significant.

# APPENDIX A

## Objective-Referenced Bank of Items and Tests (ORBIT)

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 20

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**For each item, find the word that best completes the sentence. Mark the answer. If you do not know the answer, mark the question mark (?).**

---

**1** When the race was over, Pat was declared the _____ .

| sport | judge | warrior | champion | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| A | B | C | D | E |

---

**2** The angry dog _____ at us.

| roared | whined | growled | screamed | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| F | G | H | J | K |

---

**3** We had a _____ about an hour before dinner.

| meal | snack | feast | dessert | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| A | B | C | D | E |

---

**4** After the bad news, everyone felt _____ .

| proud | gloomy | greedy | patient | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| F | G | H | J | K |

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LOCAL RESEARCH EDITION

C1341

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 22

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**For each item, find the word that correctly completes the sentence. Mark the answer. If you do not know the answer, mark the question mark (?).**

---

1 The jury's _____ was "guilty."

- ○ A) report
- ○ B) verdict
- ○ C) summary
- ○ D) function
- ○ E) ?

---

2 Fertilizer will _____ plants.

- ○ F) graft
- ○ G) retain
- ○ H) nourish
- ○ J) irrigate
- ○ K) ?

---

3 The _____ for studying distant stars was built on a mountain.

- ○ A) pharmacy
- ○ B) penthouse
- ○ C) monastery
- ○ D) observatory
- ○ E) ?

---

4 The banker _____ the house for a loan.

- ○ F) rented
- ○ G) appraised
- ○ H) exchanged
- ○ J) redecorated
- ○ K) ?

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C2017 LOCAL RESEARCH EDITION

2 What lucky event happened to Nita Brown?

- F) She inherited money.
- G) She published her book.
- H) She met an archaeologist.
- J) She married Cousin Ryan.
- K) ?

---

3 What did Cousin Ryan become when he first left school?

- A) a barber
- B) a publisher
- C) an architect
- D) a correspondent
- E) ?

---

4 How long could Grandma look at pictures with Miriam?

- F) sixty minutes
- G) forty minutes
- H) thirty minutes
- J) fifteen minutes
- K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

The oldest organized sport in our country is a game called stickball which was invented by North American Indians. It was often used in place of war to settle quarrels.

The players carried sticks similar to tennis rackets, but with much longer handles. The netting was made of laced deerskin. The ball was about the size of a golf ball. The players either batted the ball or caught it in the netting and ran with it. The opposing team would attempt to gain control of the ball by blocking the throw or tackling the player who had the ball. The scorekeeper would put a sharpened stick in the ground each time a player threw the ball through the goal posts. When a team had 20 sticks, the scorekeeper would begin to remove them each time that the ball was thrown through the goal. When a team's sticks had all been removed, that team won the game.

A form of stickball is still played today. However, it is not played to settle a quarrel, but strictly for fun.

---

**2** What were the sharpened sticks used for?

- ○ F) to keep score
- ○ G) to bat the ball
- ○ H) to guard the goal
- ○ J) to block the throws
- ○ K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

When Frank Lloyd Wright, the noted architect, graduated from high school in Wisconsin, he wanted to go away to study architecture. However, his family was short of money. Therefore, Frank had to stay in town. He studied civil engineering at the University of Wisconsin, which had no program in architecture.

Frank was not interested in building; he was interested in design. He felt he must go to Chicago and join an architectural firm.

Mrs. Wright was opposed to the idea of her son's leaving home without a job or a place to stay. Because Frank was so insistent, she wrote to her brother for his opinion. Frank's uncle, who was a respected Chicago minister, wrote back saying that Frank should finish his education in Wisconsin. He felt that Frank would probably waste his money on entertainment in Chicago. To Frank, that idea was an outrage. He was firmly dedicated to his goal. He eventually did go to Chicago and showed them all by becoming a famous architect.

---

4 What did Mrs. Wright do when Frank said he wanted to go to Chicago?

- ○ F) She encouraged Frank to go.
- ○ G) She wrote to her brother for advice.
- ○ H) She told Frank that she would not give him any money.
- ○ J) She wrote to an architectural firm to see if they were hiring.
- ○ K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Have you ever found a forgotten piece of bread or fruit at the back of your refrigerator with a bluish mold on it? The mold does not look very appetizing, and you may have thrown the food away, but every day people eat and drink products that are made with molds. Some cheeses are made by mixing milk with mold or with moldy bread. A black mold is used in making certain kinds of soft drinks, and a gray one is used for giving some wines a special flavor.

Green molds are used in making a variety of medicines that cure many different diseases. Mold is also helpful in breaking down waste products, such as dead leaves and branches.

Perhaps the next time that you find some unexpected mold in your refrigerator, you may want to observe it for awhile and think of the ways that mold can benefit you.

---

**2** What is the main idea of this story?

- ○ F) Molds can be useful.
- ○ G) Molds should be studied.
- ○ H) Moldy foods should be avoided.
- ○ J) Molds are used in making cheese.
- ○ K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

My name is Jake Phillips, and my family has been farming this land for over a hundred years. We've got 500 acres of prime Kansas grazing land. Throughout the years, we've lived through tornadoes, blizzards, and the dust bowl of the thirties, but this huge, divided highway has caused us more trouble than any of those.

My house is on the north side of the highway, and behind it are my barns and machinery sheds. On the other side of the highway is my grazing land. The nearest bridge is three miles west of here, so I have to drive at least six miles just to get to my cattle.

I can see how accidents will be reduced by separating the lanes. I can also see why big cities need big roads, but out here, all it has done is to make my life difficult. I suppose I'll get used to it though. Both my family and the highway are definitely here to stay.

---

**4** What is the main idea of this story?

- ○ F) The new highway has made Jake's life more difficult.
- ○ G) Jake must drive at least six miles to get to his cattle.
- ○ H) Jake's family has farmed the same land for over a hundred years.
- ○ J) Accidents will be reduced by building highways with divided lanes.
- ○ K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Two composers known as musical geniuses lived parts of their lives during the same period of time. They shared honors, but their lives had little else in common.

Wolfgang Mozart bloomed in an atmosphere of praise and friendship and accomplished what no other child in the music world had ever done. He could remember complete musical scores after hearing them once, and could play them on the piano. He was very social, and his enthusiasm for dancing almost equaled his love of music.

Ludwig van Beethoven spent his childhood under miserable conditions; he was ruled by a tyrant father who was determined that his son would be a musical wonder. After hours of practice, the only tender word Beethoven ever heard came from his mother. Beethoven achieved success, but not until he was an adult. His life was marked by a bad temper, lack of social manners, and extreme awkwardness. He suffered the great misfortune of total deafness.

In later years, Beethoven was nationally honored while alive and mourned at his death. Mozart died poor and alone, buried in an unmarked grave.

---

**2** According to the story, why did Mozart probably achieve success early in life while Beethoven did not?

- ○ F) He had a greater love for music.
- ○ G) He had more talent than Beethoven had.
- ○ H) He practiced harder than Beethoven did.
- ○ J) He was raised in a more agreeable atmosphere.
- ○ K) ?



C1866-4

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

**F TFII JBBQ VLR FK QEB QRKKBI**

If your friend sent you this secret message, could you decode it? There are some important facts about the English language that should help you. First, E is used most often. Second, T is the letter most often used at the beginning of a word. Third, a single-letter word is usually A or I. Fourth, two-letter words are probably OF, TO, or IN. Fifth, a three-letter word is often THE. Sixth, LL, EE, SS, OO, TT, FF, RR, NN, PP, and CC are the most common double letters. Let's see what you have.

| F | TFII | JBBQ | VLR | FK | QEB | QRKKBI |
|---|---|---|---|---|---|---|
| I | ILL | EET | | IN | THE | T EL |

If it is still impossible to decode, there is another thing you might try. Your friend has probably used a pattern that can easily be remembered. The most usual pattern is writing the alphabet backwards, or shifting the whole alphabet from the letters you already know. Can you see that your friend has moved the alphabet three letters to the right?

Now you can break the code.

| F | TFII | JBBQ | VLR | FK | QEB | QRKKBI |
|---|---|---|---|---|---|---|
| I | WILL | MEET | YOU | IN | THE | TUNNEL |

---

4 How can we assume that I in the code is really L?

- ○ F) I is used most often in the code.
- ○ G) L follows T and F in the sentence.
- ○ H) L is used most often at the end of a word.
- ○ J) I is doubled and a double letter is often LL.
- ○ K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Jesse was eager to stay at this campsite. The ranger at the gate gave Dad a bulletin that explained what you should do if you saw a bear in the park. Jesse had never seen one except at the zoo and he couldn't wait.

Jesse's sister Carla read from the bulletin: "Because bears have poor eyesight, they probably won't see you unless you make quick or sudden movements. The only real danger, in most cases, exists when a mother bear is separated from her cubs; however, if one should chase you, head for the nearest tree." Carla continued, her voice growing higher, "Throw a pack, a camera, or any other object you are carrying in the bear's path to distract it."

A man who seemed nervous and upset walked past and told Dad that a bear had just gotten into his food.

"We'll put our food away as soon as we've eaten," said Dad, anxiously, "and we'll wash the dishes quickly to get rid of food odors."

That night was Carla's turn to gather kindling. She imagined that she heard noises in the woods, so she begged Jesse to go with her. For once, Jesse went willingly, hoping to catch a glimpse of a bear.

Later that night, as the family sat around the campfire, Jesse held tightly to the flashlight, willing a large shape to come looming out of the dark. Jesse soon grew tired and fell asleep.

The next morning, Jesse saw huge tracks near the tent. He had missed his chance to see a real bear.

---

2 What was Jesse's attitude at the beginning of the story?

- O F) bored with the big fuss made over bears
- O G) hopeful that he would be able to see a bear
- O H) reckless in his determination to find a bear
- O J) amazed that there were bears near the campsite
- O K) ?

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

"Johanna," called Hans, "come quickly. A car fell into the canal."

Johanna jumped on her bicycle and raced down the brick street after Hans. "Is the driver hurt?" she called.

"I hope not," he answered anxiously.

People seldom got hurt in these accidents, but often foreigners panicked. They did not realize that they had to let some water into the car before they could open the door and swim away. Most of them tried to force open the door and the water pressure would jam it.

The pair pushed their way through the crowd on the narrow wooden bridge. "What happened?" asked Hans.

"He must have tried to park too close to the edge," someone volunteered.

There in the muddy water of the canal was a bright red car. On the bank was a man in a ruined brown suit dripping dirty water. "Oh, no," exclaimed Hans, "it's Uncle Frans."

---

4 What kind of person is Hans?

- ○ F) panicky
- ○ G) curious
- ○ H) impatient
- ○ J) courteous
- ○ K) ?

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 17a

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**For each item, find the word that has the same or almost the same meaning as the underlined word in the sentence. Mark the answer. If you do not know the answer, mark the question mark (?).**

1 The report was accurate in every detail.

- O A) correct
- O B) critical
- O C) distinct
- O D) outlined
- O E) ?

2 The prospect for improvement seems dim.

- O F) desire
- O G) future
- O H) outlook
- O J) determination
- O K) ?

3 The brass bowl has a shiny finish.

- O A) smooth
- O B) glossy
- O C) stained
- O D) colorful
- O E) ?

4 Josie had to monitor the controls at all times.

- O F) check
- O G) repair
- O H) select
- O J) connect
- O K) ?

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C1716 LOCAL RESEARCH EDITION

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 21

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**For each item, find the word that best completes the sentence. Mark the answer. If you do not know the answer, mark the question mark (?).**

---

**1** We planned a political rally in support of our _____.

| rivals | elections | relatives | candidates | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| A | B | C | D | E |

---

**2** Ferris _____ in the dark for the light switch.

| groped | lurked | tripped | hesitated | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| F | G | H | J | K |

---

**3** This brand has a good _____ for quality.

| reputation | authority | market | profit | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| A | B | C | D | E |

---

**4** I couldn't get _____ to the spicy food.

| tempted | adopted | cultivated | accustomed | ? |
|---|---|---|---|---|
| ○ | ○ | ○ | ○ | ○ |
| F | G | H | J | K |

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LOCAL RESEARCH EDITION
C1848

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 25

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**Read the story below. Then read each item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

Miriam's favorite entertainment was glancing through Grandma's ancient photograph album. Grandma could tell stories for hours about the characters in the pictures. Today, though, Grandma said that thirty minutes was all the time that she could spare. Determined to use every minute, Miriam opened the album and asked, "Grandma, who's that?"

"That, Miriam, is Aunt Gladys when she was an aviator. She did stunt flying for a living. To everyone's amazement, she married an archaeologist. Like vagabonds, those two would fly from place to place digging up skeletons and pottery."

Pointing to another photograph, Grandma continued, "Your Cousin Ryan became a barber after he left school, but that didn't challenge him much. During the war he became a newspaper correspondent and was highly successful. Later, he published a book."

"Next to him is that stingy rogue, Nita Brown. She irritated everyone she met. She got lucky when she inherited $100,000 from an architect. He was one of the few people she got along with."

Miriam's eyes sparkled as she waited for Grandma to tell about the next picture.

1 What was Aunt Gladys's job?

- ○ A) barber
- ○ B) stunt flier
- ○ C) photographer
- ○ D) archaeologist
- ○ E) ?

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NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 25b

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

"Let's get some clams," suggested Ana.

"No," said Manuela, "I'm too tired."

"It's such a beautiful day. Come on, I'll show you how to dig for them."

The two girls went toward the beach, Ana running ahead with the bucket, Manuela lagging behind.

"Walk along these rocks by the shore until you see a squirt of water," said Ana. "Then you'll know where to dig."

"Don't we need a clamming fork?" asked Manuela.

"No, just get a broken shell. It's sturdy enough."

"It'll hurt my hands," complained Manuela.

"There's one," Ana exclaimed, "start digging!"

Manuela jabbed the shell into the sand.

"Dig a little more carefully, Manuela," Ana said. "You don't want to break their shells or smash their necks."

"I really don't care."

Manuela had been visiting Ana for a week. Ana had really looked forward to her cousin's two-week visit, but now she hoped the next week would go quickly. Ana had yet to find something that Manuela liked to do; she hated to swim, she was sick on the boat, and she refused to hike. "I can't believe it. If she finds fault with one more thing, I'm just going to push her in the water," thought Ana.

---

1 What did Manuela use to dig for clams?

- ○ A) a rock
- ○ B) a shell
- ○ C) her hands
- ○ D) a clamming fork
- ○ E) ?

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LOCAL RESEARCH EDITION
C2047-4

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

As a boy, the great Sioux Indian, Chief Sitting Bull, was called Hunkeshnee, meaning "slow." This name was appropriate since he moved with purpose and chose his words carefully. When the warriors went on a buffalo hunt, he and the other boys would often use the buffalo calves for a mock hunt. They would leap onto their ponies and attempt to hit the calves with their dull-tipped arrows.

On one such hunt, Hunkeshnee's arrow struck a calf and made it angry. Almost at the same instant, his pony tumbled, and the enraged calf charged. Quickly, Hunkeshnee leaped onto the calf's back and pulled back its ears until it sat down. Hunkeshnee then rode the calf until he was weary.

Hunkeshnee's father, Chief Jumping Bull, was so proud of his son's courage that he held a feast in his honor. There Hunkeshnee related his experience as if he were a warrior telling of his deeds in battle or on the hunting grounds. That night, Jumping Bull proclaimed that from then on his son would be known as Sitting Bull.

---

3 Chief Jumping Bull held a feast to honor

- O A) his son's courage
- O B) the buffalo hunters
- O C) the boys in the mock hunt
- O D) the warriors home from battle
- O E) ?

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 29a

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Teddy had a dismal day at school. First, he could not find the diameter of a circle in math. Then he discovered that the geraniums for his science project had died. Worst of all, the egg salad sandwich in his lunch tasted like a soggy sponge.

"I'm starving!" exclaimed Teddy. "I'll never make it till supper."

During history, he thought about hamburgers and french fries instead of English kings. The rest of the afternoon he dreamed of raspberry sodas and chocolate fudge.

At last the final bell rang, and Teddy ran home. Just as he reached for a snack from the refrigerator, his mother said, "No, Theodore. Remember, no eating between meals."

---

1 What is the main idea of this story?

- ○ A) The geraniums had died.
- ○ B) Teddy dreamed in history.
- ○ C) Teddy could not do his math.
- ○ D) Teddy was hungry all afternoon.
- ○ E) ?

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**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Before the Civil War, a number of escaped slaves were able to make their way north. Often they were aided by Harriet Tubman, who was herself an escaped slave.

Harriet Tubman was born in Maryland in 1820. When she was twenty-nine, she escaped from the plantation where she had been a slave. She was helped by a secret group of people who gave her places to stay and warned her about roads to avoid. This group was known as the Underground Railroad.

She stayed in the North for a year and then returned to the South to lead other escaped slaves to freedom. Huge rewards were offered for her capture. She was often in danger, especially since she had fainting spells from a blow on the head. She never knew when she would faint.

Harriet Tubman made nineteen trips to the North and helped more than 300 people reach safety. She even managed to take her parents to the North, which was a very difficult task because they were old and not able to travel far at one time.

When the Civil War began, Ms. Tubman served as a nurse and a spy for the North. She went on many dangerous missions to get information from the Confederate armies along the coast of South Carolina.

After the war, she went to live in Auburn, New York, where she lived to be ninety-three.

---

**3** What is the main idea of this story?

- O A) Harriet Tubman was a spy for the North.
- O B) Harriet Tubman had been a slave but was able to escape.
- O C) Harriet Tubman helped many escaped slaves reach freedom.
- O D) The Underground Railroad helped Harriet Tubman get to the North.
- O E) ?

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 29b

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

My sister Ruth invented a machine that she said could make people go forward or backward in time. I didn't believe it would work, but agreed to try it. Ruth attached wires to my head. Feeling dizzy, I closed my eyes and saw whirling lights. When I opened them, I was standing in front of a castle. A boy wearing a long gown was coming toward me.

Using a strange kind of English, he introduced himself as Edward and invited me into the castle for dinner. We stopped to wash at a trough filled with cold water. I learned that Edward only took a bath once a month because it was so much work to heat enough water to fill the large wooden tub. Water, Edward told me, is bad for one's health and one never could tell what might be floating in the well.

Then we walked into a large hall lighted by many candles. Many people were seated at long tables. Young boys brought around platters with all kinds of meat. Edward told me to eat all I wanted, since anything left over was given to the beggars because there was no way to keep it from spoiling. Just as I was about to take my first bite, I started feeling dizzy, and lights began flashing in my head.

---

1 Why does Edward wash himself in the trough?

- ○ A) Water is very scarce.
- ○ B) There is no running water.
- ○ C) Water is bad for your health.
- ○ D) He did not know what might be floating in the well.
- ○ E) ?

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C1866-4 LOCAL RESEARCH EDITION

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

The hog's grizzled snout was nestled in his cool mudhole. Swarms of flies buzzed overhead. They were unable to bite through the hog's hide because of the thick coating of mud. The hole was sheltered from the hot sun by overhanging branches from a tree.

The hog's ears twitched and his muzzle quivered when he heard the man's familiar call. He clambered out of the comfortable ooze. When the flies began to attack, the hog forgot his appetite and slumped backward into the refreshing slime.

---

**3** Why did the man call the hog?

- ○ A) to pet him
- ○ B) to feed him
- ○ C) to wash him
- ○ D) to move him
- ○ E) ?

NAME _____ DATE _____

SCORE: _____ OF 4 OBJECTIVE: 33b

STUDENT'S STATUS: MASTERED OBJECTIVE ____ DID NOT ____

ORBIT
OBJECTIVES REFERENCED BANK OF ITEMS & TESTS

**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

Two composers known as musical geniuses lived parts of their lives during the same period of time. They shared honors, but their lives had little else in common.

Wolfgang Mozart bloomed in an atmosphere of praise and friendship and accomplished what no other child in the music world had ever done. He could remember complete musical scores after hearing them once, and could play them on the piano. He was very social, and his enthusiasm for dancing almost equaled his love of music.

Ludwig van Beethoven spent his childhood under miserable conditions; he was ruled by a tyrant father who was determined that his son would be a musical wonder. After hours of practice, the only tender word Beethoven ever heard came from his mother. Beethoven achieved success, but not until he was an adult. His life was marked by a bad temper, lack of social manners, and extreme awkwardness. He suffered the great misfortune of total deafness.

In later years, Beethoven was nationally honored while alive and mourned at his death. Mozart died poor and alone, buried in an unmarked grave.

---

1 Which of the following expresses the attitude of Beethoven's father?

- ○ A) harsh and cruel
- ○ B) modest and humble
- ○ C) resentful and vain
- ○ D) deeply concerned for others
- ○ E) ?

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**DIRECTIONS:**
**Read the story below. Then read the item about the story and mark the answer. If you do not know the answer, mark the question mark (?).**

---

My name is Jake Phillips, and my family has been farming this land for over a hundred years. We've got 500 acres of prime Kansas grazing land. Throughout the years, we've lived through tornadoes, blizzards, and the dust bowl of the thirties, but this huge, divided highway has caused us more trouble than any of those.

My house is on the north side of the highway, and behind it are my barns and machinery sheds. On the other side of the highway is my grazing land. The nearest bridge is three miles west of here, so I have to drive at least six miles just to get to my cattle.

I can see how accidents will be reduced by separating the lanes. I can also see why big cities need big roads, but out here, all it has done is to make my life difficult. I suppose I'll get used to it though. Both my family and the highway are definitely here to stay.

---

**3** Which of the following expresses the attitude of Jake Phillips?

- O A) He is resigned to having the highway divide his land.
- O B) He is insulted that the government did not ask his opinion.
- O C) He is grateful that the big cities will have the roads they need.
- O D) He wishes that the highway had run farther north through his neighbor's land.
- O E) ?

## Chapter IV

### Reading Questionnaire and Classroom Observation Estimates of Television Reading Program Effects on Classroom Instructional Events

In addition to producing change in academic growth, a new instructional technique may also change the character of instruction by stimulating or suppressing student involvement, self discipline, or response accuracy. Change may also occur in the way in which students and teachers interact with one another. Studies of the relationship between achievement and teacher or student classroom behavior have identified a number of variables which are significantly related to achievement (see Duncan and Biddle, 1974 for a review). Although findings are somewhat ambiguous, there is a consistently positive relationship found between achievement and observed student attention, response accuracy and volunteering during instruction (cf. Brophy and Good, 1970; Garner and Bing, 1973; Lahaderne and Jackson, 1970). Consistent negative relationships have been found between achievement and measures of inattention and negative student-teacher interactions, such as disciplinary departures (cf. Brophy and Good, 1970; Firestone and Brody, 1975; Luce and Hoge, 1978). In addition, certain instructional activities are related to achievement scores. For example, reading achievement is positively related to the time large groups or the entire class spent reading aloud, discussing material, or reading silently. It is negatively related to time students spend working alone or on an activity chosen by the student rather than the teacher (Stallings and Kaskowitz, 1974; Evertson, Anderson and Brophy, 1978).

A complete evaluation of instructional materials should include a measure of change in classroom events, assuming that effective materials will promote more positive instructional events and fewer negative ones. Of the large number of variables which could be examined to evaluate the TVRP impact on

instruction, CERE selected those which could be measured both directly and indirectly (through observation and questionnaires) and which had shown a significant relationship, either positive or negative, to achievement. These include measures of student behavior, teacher-student interactions, and instructional activities. Questionnaire responses from teachers who used the TVRP during the previous school year indicated that student attention increased when using the TVRP materials and that fewer reading errors were made with TVRP scripts than with other reading materials. Low questionnaire return rates limited confidence in these results and therefore it seemed desirable to replicate the questionnaire data collection, to augment the results with a small scale classroom observation program and to focus both measures on the same set of variables. Data were gathered from both TVRP and Non-TVRP teachers so that base-line responses would be available for comparison. It should be noted that since teachers involved in the classroom instruction responded, the data are essentially self-report data.

## Reading Questionnaire

### Instrument

A 26 item questionnaire (Appendix A) was developed by CERE which requested information from teachers describing (1) student behavior during reading instruction (items 1-13), (2) instructional time allocation (item 14-21), and (3) disciplinary interruptions (items 23-26). The first set of items are descriptive of the way students behave when they are attentive to the instruction (e.g. Volunteer to answer question about the reading material.), or inattentive (e.g. Daydream during the reading lesson.). Ten of these items are low-inference, that is, behaviors which can be counted and for which the teachers should have a quantitative estimate. Of these 13 items, 11 behaviors have been significantly related to achievement outcomes in past research

(Rosenshine and Furst, 1971).

The eight activities listed in the second section of items were measured by Stallings, et al. (1978) and Evertson, et al., (1978) and have exhibited significant correlations with reading achievement scores. These items were ranked according to degree and direction of relationship. The first three on the list, (discussing the reading selection, reading aloud and reading silently) have a strong positive correlation. The second three (written exercises, work as a whole class and work in small groups) are moderately and positively correlated with achievement. Individual work and work on activities chosen by the student are negatively correlated with achievement. Questions about allocation of instructional time to each of these activities gave three subscale scores for High Yield Activities, Moderate Yield Activities and Low Yield Activities, respectively.

Questionnaire items in all three sections are declarative statements describing behavior. Responses are selected from a five point Likert-type scale. The benchmarks on each scale were selected after review of the 1977-78 TVRP data and relevent literature to determine the upper and lower bounds for the occurrence of each behavior. Teachers were asked to review the last five reading lessons taught and to respond by "averaging" what had occurred during that time. They indicated the percentage or the absolute number of students who had exhibited the behavior in question or the percentage of time devoted to specified activities by darkening the appropriate slot on an optical scan sheet. This allowed data to be machine-scored.

It was expected that the high appeal and familiarity of the scripts would promote an increase in attentiveness coupled with a reduction in both reading errors and disciplinary departures when the TVRP materials are being used. In addition, the general familiarity of the programs makes the TVRP materials more

amenable to oral reading and group discussion than to independent work. Thus, High Yield Activities should increase and Low Yield Activities should decrease when the TVRP materials are used. By comparing scores from TVRP teachers asked to react to both the standard instructional materials and the TVRP materials, such effects can be tested. If the TVRP has the desired effect, scores will be higher on the second rating. If Non-TVRP teachers are also asked these same questions about the standard material, a differential effect should appear as lower scores for this group than for the TVRP group.

Method

To provide for such comparisons, the Reading Questionnaire (RQ) was distributed to all TVRP teachers and the Minneapolis Non-TVRP teachers during the fall of 1978 (the week of October 26) and again during the spring of 1979 (the week of March 8). Distribution and collection of the questionnaires followed the usual pattern described elsewhere in this report (p. 21). Instructions with the first questionnaire (RQ-1) directed the teachers to consider their regular materials when answering the questions. This provided base-line information from the TVRP group and comparable scores from some of the Non-TVRP teachers. The second questionnaire (RQ-2) asked the TVRP teachers to rate the TVRP materials, while the Non-TVRP teachers were again asked to rate the standard instructional materials. Scores from the two RQs were compared for the TVRP teachers, while Minneapolis TVRP and Non-TVRP scores were compared for both questionnaires.

Analyses

Optical scan sheets returned by the teachers were logged in by CERE staff and data were stored in computer files for analysis computations. Table 6 (p. 24) displays the return rate, expressed as percentages, for each of the six evaluation sites. With the exception of Chicago, the return rate was acceptably high.

To aid interpretability, the scores on ten negatively stated items were reflected, or reversed, so that increase in scores indicated favorable conditions. For example, item 11 asks teacher to specify the number of students who are disorderly during reading. If the teacher selects "E" (16 or more), a score of one rather than five would be given because a large number of disorderly students is associated with poor learning conditions. Items receiving this treatment are 8,9,11,13,22,23,24,25, and 26.

RQ-1 data from the first and third sections of the questionnaire were first factor-analyzed to determine subscale structure. Five subscales were defined from questionnaire items loading on each of five factors. They were labeled Enthusiasm, Discipline, Behavior Problems, Competence, and Model Child. Items asking about the allocation of instructional time yielded three additional subscale scores. Thus, each teacher was scored on eight subscale scores and a total score for both the RQ-1 and RQ-2. Table 26 below lists the eight subscales and the questionnaire items contained in each. Subscale reliability estimates (coefficient Alpha) range from 0.56 for the two item scale to 0.82 for the five-item scale. The reliability estimate on the total score is 0.86. Subscale and total scores on both RQs were aggregated for intermediate and junior high teachers within each site. Grade level differences found in Program Questionnaire data in two successive years of evaluation suggest that different classroom effects may be operating at different grade levels.

Descriptive data for RQ-1 are contained in Appendix B. Based on the observation that site differences on subscales were very small, the decision was made to combine data from all sites for further analysis. The effects of grade level and TVRP use were examined by analysis of variance. A positive TVRP effect would appear as a significant increase in RQ-2 scores.

Results

Table 27 contains total and subscale mean scores for TVRP intermediate

and junior high teachers from Minneapolis, Mount Vernon, Pinellas County, Dallas, and Bullhead City on both RQs. Ungraded data from Chicago are also presented. Only matching data were included in the analyses, so that the findings represent only those teachers who returned both questionnaires.

A rise in scores from fall to spring would demonstrate a positive effect of the TVRP on teacher reports of classroom events. Such an effect was not consistently observed, as many of the RQ-2 scores were in fact lower (10 of 18 on subscales one to five). A positive TVRP effect was found in the Enthuiasm subscale scores, however. Table 28 contains the analysis of variance summary showing significant effects for both grade level and questionnaire (RQ-1 vs. RQ-2) on Enthusiasm scores. Intermediate teachers rated their classes significantly higher than junior high teachers on both questionnaires and both intermediate and junior high teachers rated their classes significantly higher on the RQ-2, indicating that the TVRP promoted more enthusiasm among students than standard materials.

Significant questionnaire effects were also obtained for the Discipline and Competence subscales (reported in Table 28). In both cases, scores on the RQ-2 were significantly lower than scores on the RQ-1 for both intermediate and junior high teachers. It appears that teachers observe poorer discipline and more reading errors when the TVRP materials are being used.

Significant grade level effects were obtained on scores for the Behavior Problems and Model Child subscales. On both RQ-1 and RQ-2, junior high teachers found behavior problems in fewer students than the intermediate teachers, while intermediate teachers found more model children in their classes than did the junior high teachers. These effects are unrelated to use of the TVRP.

The Chicago results (calculated in separate analyses) differed from those of the other sites. Analysis of variance summary data are contained in Table 29 for the Enthusiasm, Model Child and Low Yield Activity subscale scores. A

Table 26

Reading Questionnaire Subscale Factors and Items

| Subscale | Factor Name | Items |
|---|---|---|
| 1 | Enthusiasm | 3,4,5 and 10 |
| 2 | Discipline | 22,23,24,25 and 26 |
| 3 | Behavior Problems | 7,8, and 9 |
| 4 | Competence | 12 and 13 |
| 5 | Model Behavior | 1,2,6 and 11 |
| 6 | High-Yield Activities | 14,15 and 16 |
| 7 | Moderate-Yield Activities | 17,19 and 20 |
| 8 | Low-Yield Activities | 18 and 21 |

Table 27

Reading Questionnaire Total and Subscale Mean Scores and Standard Deviations and Sample Sizes (n) For Intermediate and Junior High TVRP Teachers

| Administration Date | (194) Intermediate $\bar{X}$ | SD | (54) Junior High $\bar{X}$ | SD | (61) Ungraded[1] $\bar{X}$ | SD |
|---|---|---|---|---|---|---|
| **Total Score** | | | | | | |
| Fall | 68.97 | 8.64 | 69.19 | 8.36 | 66.88 | 8.54 |
| Spring | 69.02 | 8.47 | 67.41 | 8.78 | 63.85 | 13.54 |
| **Enthusiasm Subscale** | | | | | | |
| Fall | 13.20 | 2.85 | 11.63 | 3.26 | 12.84 | 3.91 |
| Spring | 13.72 | 2.78 | 12.94 | 2.83 | 11.37 | 4.38 |
| **Discipline Subscale** | | | | | | |
| Fall | 11.00 | 3.31 | 11.87 | 4.03 | 10.57 | 3.89 |
| Spring | 10.32 | 3.20 | 10.19 | 3.03 | 10.77 | 3.78 |
| **Behavior Subscale** | | | | | | |
| Fall | 11.04 | 2.14 | 11.72 | 1.93 | 10.71 | 2.22 |
| Spring | 11.26 | 2.49 | 11.65 | 2.54 | 10.73 | 2.42 |
| **Competence Subscale** | | | | | | |
| Fall | 2.91 | 1.35 | 3.23 | 1.63 | 2.87 | 1.45 |
| Spring | 2.58 | 0.92 | 2.69 | 1.28 | 3.15 | 1.70 |
| **Model Child Subscale** | | | | | | |
| Fall | 12.97 | 1.84 | 12.44 | 2.05 | 12.87 | 2.42 |
| Spring | 12.78 | 2.18 | 11.98 | 2.59 | 11.16 | 3.82 |
| **High Yield Subscale** | | | | | | |
| Fall | 7.01 | 2.35 | 6.98 | 2.37 | 6.85 | 2.54 |
| Spring | 7.27 | 2.38 | 7.41 | 2.08 | 7.03 | 2.84 |

Table 27 (continued)

| Administration Date | Intermediate $\bar{X}$ | Intermediate SD | Junior High $\bar{X}$ | Junior High SD | Ungraded[1] $\bar{X}$ | Ungraded[1] SD |
|---|---|---|---|---|---|---|
| **Moderate Yield Subscale** | | | | | | |
| Fall | 7.21 | 2.22 | 7.23 | 2.08 | 6.98 | 2.04 |
| Spring | 7.25 | 2.22 | 7.38 | 2.39 | 7.50 | 2.28 |
| **Low Yield Subscale** | | | | | | |
| Fall | 4.19 | 1.69 | 4.25 | 1.61 | 3.50 | 1.55 |
| Spring | 4.02 | 1.87 | 3.87 | 1.71 | 4.17 | 1.78 |

[1]No grade level identification was available for Chicago teachers.

Table 28

Analysis of Variance on Enthusiasm, Discipline and Competence Subscales Minneapolis, Mount Vernon, Pinellas County, Dallas, and Bullhead City Treatment Teachers[1]

| Source | df | Mean Square | F |
|---|---|---|---|
| **Enthusiasm** | | | |
| Grade (G) | 1 | 116.50 | 14.12** |
| Questionnaire (Q) | 1 | 59.65 | 7.23* |
| G x Q | 1 | 13.32 | 1.62 |
| Error | 492 | 8.25 | |
| **Discipline** | | | |
| Grade (G) | 1 | 10.98 | .99 |
| Questionnaire (Q) | 1 | 96.00 | 8.69* |
| G x Q | 1 | 20.34 | 1.64 |
| Error | 482 | 11.06 | |
| **Competence** | | | |
| Grade (G) | 1 | 4.02 | 2.66 |
| Questionnaire (Q) | 1 | 16.90 | 11.17** |
| G x Q | 1 | .83 | 0.55 |
| Error | 486 | | |

[1] n=194

* $p < .05$

** $p < .001$

Table 29

Analysis of Variance on Enthusiasm, Model Child and Low Yield Subscales Chicago[1]

| Source | df | Mean Square | F |
|---|---|---|---|
| **Enthusiasm** | | | |
| Questionnaire | 1 | 66.78 | 3.86* |
| Error | 122 | 17.29 | |
| **Model Child** | | | |
| Questionnaire | 1 | 88.60 | 8.68* |
| Error | 120 | 10.21 | |
| **Low Yield** | | | |
| Questionnaire | 1 | 13.33 | 4.81* |
| Error | 118 | 2.77 | |

[1] $n=65$

*$p < .05$

significant decrease occurred for RQ-2 scores on the first two subscales, indicating that Chicago teachers see less enthusiasm, and fewer model children when using the TVRP materials. A significant increase in Low Yield Activity scores indicates reportedly that teachers spend more time on activities which are negatively related to achievement when using the TVRP materials.

Because both the TVRP and Non-TVRP teachers in Minneapolis completed RQ-1 and-2, an estimate of the effect of the time between the two questionnaires is available. Teachers may be relatively more or less favorable to instructional materials at different times during the year and because Non-TVRP teachers rated the standard instruction materials for a second time on the RQ-2, it is possible to look at the effect of time on ratings. Separate analyses were carried out on Minneapolis data using TVRP/Non-TVRP as an additional factor. Table 30 contains means and standard deviations for subscale and total scores. Table 31 contains analysis of variance summary statistics for scores on the Enthusiasm and Discipline subscales, the only two for which effects were significant.

As in the above analysis on TVRP teachers from five sites, there is a significant effect on Enthusiasm scores for grade level with intermediate teachers giving significantly higher ratings than junior high teachers. There is also a significant increase in enthusiasm scores on the PQ-2, which means that both TVRP and Non-TVRP teachers gave higher enthusiasm ratings on the second questionnaire.

Results of the analysis on the discipline subscale show a main effect for the TVRP/Non-TVRP factor. TVRP teachers reported significantly worse discipline on both questionnaires. An analysis of variance on the total scores was conducted to test the effects of site, grade level, and questionnaire. The results are reported in Table 32. Only the site effect is significant. Mount

Table 30
Reading Questionnaire Total and Subscale Mean Scores and Standard Deviation, and Sample Sizes (n) Minneapolis TVRP and Non-TVRP Intermediate and Junior High Classes

| | Grade Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Intermediate | | | | Junior High | | | |
| | Fall | | Spring | | Fall | | Spring | |
| Scale | TVRP[1] | Non-TVRP[2] | TVRP | Non-TVRP | TVRP[3] | Non-TVRP[4] | TVRP | Non-TVRP |
| Total | | | | | | | | |
| $\bar{X}$ | 66.91 | 66.95 | 65.79 | 68.14 | 63.90 | 64.91 | 63.90 | 66.09 |
| SD | 7.97 | 11.55 | 7.20 | 6.77 | 4.63 | 5.09 | 7.96 | 9.03 |
| Enthusiasm | | | | | | | | |
| $\bar{X}$ | 12.19 | 12.18 | 13.21 | 13.04 | 10.50 | 9.91 | 13.40 | 11.72 |
| SD | 2.33 | 2.48 | 2.99 | 2.87 | 2.59 | 2.91 | 2.07 | 3.19 |
| Discipline | | | | | | | | |
| $\bar{X}$ | 11.07 | 11.19 | 10.22 | 10.90 | 10.90 | 13.45 | 9.00 | 11.82 |
| SD | 3.32 | 4.41 | 2.84 | 3.70 | 4.23 | 5.39 | 2.00 | 2.48 |
| Behavior | | | | | | | | |
| $\bar{X}$ | 10.04 | 10.41 | 10.14 | 10.63 | 10.30 | 11.90 | 10.20 | 10.00 |
| SD | 1.56 | 2.02 | 2.13 | 2.17 | 0.95 | 1.70 | 1.55 | 2.28 |
| Competence | | | | | | | | |
| $\bar{X}$ | 2.77 | 3.18 | 2.66 | 2.95 | 3.00 | 2.73 | 2.30 | 3.00 |
| SD | 1.24 | 1.89 | .70 | 1.17 | 1.56 | 0.79 | 0.67 | 1.41 |

Table 30 (continued)

| Scale | Grade Level | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Intermediate | | | | Junior High | | | |
| | Fall | | Spring | | Fall | | Spring | |
| | TVRP[1] | Non-TVRP[2] | TVRP | Non-TVRP | TVRP[3] | Non-TVRP[4] | TVRP | Non-TVRP |
| Model Child | | | | | | | | |
| $\bar{X}$ | 13.36 | 13.09 | 12.87 | 13.77 | 13.00 | 12.18 | 12.60 | 12.27 |
| SD | 1.54 | 2.02 | 1.80 | 1.34 | 1.69 | 1.83 | 2.95 | 2.61 |
| High Yield | | | | | | | | |
| $\bar{X}$ | 6.52 | 6.70 | 6.87 | 6.25 | 5.30 | 5.18 | 6.30 | 6.09 |
| SD | 1.79 | 2.45 | 2.26 | 1.99 | 1.42 | 1.89 | 1.34 | 2.26 |
| Moderate Yield | | | | | | | | |
| $\bar{X}$ | 7.00 | 7.75 | 6.50 | 6.80 | 5.90 | 5.45 | 6.50 | 6.81 |
| SD | 2.00 | 2.19 | 2.05 | 1.73 | 2.18 | 2.20 | 1.78 | 2.27 |
| Low Yield | | | | | | | | |
| $\bar{X}$ | 4.55 | 4.70 | 3.97 | 4.10 | 4.88 | 4.00 | 4.00 | 4.36 |
| SD | 1.43 | 1.65 | 1.64 | 1.29 | 2.03 | 1.34 | 1.50 | 1.11 |

[1] n=47
[2] n=33
[3] n=10
[4] n=11

Table 31

Analysis of Variance on Enthusiasm and Discipline Subscales
Minneapolis TVRP and Non-TVRP Teachers[1]

| Source | df | Mean Square | F |
|---|---|---|---|
| **Enthusiasm** | | | |
| Treatment (T) | 1 | 11.56 | 1.57 |
| Grade (G) | 1 | 50.38 | 6.91* |
| Questionnaire (Q) | 1 | 84.62 | 11.61** |
| T x G | 1 | 8.45 | 1.16 |
| T x Q | 1 | 2.98 | 0.41 |
| G x Q | 1 | 15.57 | 2.14 |
| T x G x Q | 1 | 1.66 | 0.23 |
| Error | 172 | 7.29 | |
| **Discipline** | | | |
| Treatment (T) | 1 | 73.50 | 5.96* |
| Grade (G) | 1 | 6.19 | 0.60 |
| Questionnaire (Q) | 1 | 41.89 | 3.39 |
| T x G | 1 | 39.95 | 3.24 |
| T x Q | 1 | 1.31 | 0.10 |
| G x Q | 1 | 11.09 | 0.89 |
| T x G x Q | 1 | 0.17 | 0.01 |
| Error | 172 | 12.34 | |

[1] n=180

* $p < .05$

** $p < .001$

Table 32

Analysis of Variance on Reading Questionnaire Total Scores Minneapolis, Mount Vernon, Pinellas County, Dallas, and Bullhead City[1]

| Source | df | Mean Square | F |
|---|---|---|---|
| Site (S) | 3 | 291.04 | 4.08* |
| Grade (G) | 1 | 22.08 | 0.31 |
| Questionnaire (Q) | 1 | 179.29 | 2.15 |
| S x G | 3 | 149.44 | 2.10 |
| S x Q | 3 | 82.79 | 1.16 |
| G x Q | 1 | 196.22 | 2.75 |
| S x G x Q | 3 | 64.16 | 0.90 |

[1] n=485

* p <.05

Vernon and Dallas mean scores (71.8 and 70.0, respectively) are significantly higher than the Minneapolis and Pinellas County scores (65.6 and 65.6). This indicated that, at both times during the year, teachers in Mount Vernon and Dallas rated their classes more positively than the teachers in Minneapolis and Pinellas County, regardless of grade level or instructional materials.

## Classroom Observations

Discussions with teachers about the TVRP invariably lead to comments about the enthusiasm and interest shown by the students in the materials. Teachers often say that their students choose to read these materials rather than others available to them and are able to master a vocabulary far above their normal reading level when it is presented in the context of a script. This prompted CERE and Capital Cities to study the classroom effects of program use in a systematic manner involving direct observation both of classes using the script materials and classes using other instructional programs.

### Instrument

The major consideration in this effort was to record what took place in the classroom as accurately and consistently as possible with the least amount of bias. It was important to use quantitative rather than qualitative records and to record information which would be interpretable by the educational community at large. This seemed to preclude the use of a narrative record and dictated a search for an observation instrument which had already undergone some growth and refinement.

Rosenshine and Furst (1973) reviewed the use of observation instruments to study teaching and recommended the selection of low inference, fine grain instruments as a means of maintaining observer agreement and validity. When this type of instrument is used, many events are recorded during the course of the observations and the scoring for each event is precisely defined. The use

of such a measure reduces individual interpretation of the events and maximizes the probability that two people who have learned to use the scoring system will record an event in the same way.

Extensive research was financed by the U.S. Office of Education to examine the relationship of instructional events to achievement, particularly with respect to the Head Start and Follow Through compensatory programs (Stallings and Kaskowitz, 1974). A product of this research is an observation instrument which meets the criteria described above. The Secondary Observation Instrument (Appendix C) is used to code teacher and student behavior in grades four through twelve. It consists of two sections, called the Snapshot and the Five Minute Interaction record. The Snapshot contains information about materials, activities and grouping patterns, and is completed before the Five Minute Interaction coding begins. The Five Minute Interaction coding records every interaction which takes place during five minutes of instruction, up to 72 records. Five Snapshot-Five Minute Interaction sets are completed during one lesson. Data are recorded in booklets using photosensitive pens. Optical scanners are used to transfer data from the booklets to magnetic tape for scoring and summary.

An interactive coding system is one in which events are coded as units for an initiating action and its response. For example, if the teacher directs a question about the reading lesson to the entire class, the coding will include the information that the teacher spoke, he spoke to everyone, a question was asked, and the question was related to the reading material being used. The next coding unit will include information about the response, including the speaker who responded, the nature of the response, and the fact that it was related to reading. Coding rules provide the capability for recording the absence of a response as well as situations in which teachers are not interacting with students and situations in which students are not engaged with the learning materials. Nearly everything occurring during instruction can be

recorded using this instrument.

Training

On CERE's recommendation, Capital Cities agreed to use this observation system to record events in TVRP and Non-TVRP reading lessons to estimate the effects of the TVRP materials on classroom behavior. In order to use the instrument, extensive training was required at the Stanford Research Institute. Two CERE staff members received instruction in coding and increased coding speed and accuracy by scoring video taped lessons under the guidance of a skilled coder. It was impossible to obtain a precise measure of observer agreement, however, as one staff member had to leave before the training session was completed. A third staff member was trained to use the form during the following two weeks using video tapes of lessons. Five days of intensive work were required to be able to use the system effectively.

Method

CERE and Capital Cities jointly agreed to confine the observation to a small number of classes to provide descriptive rather than inferential data. It was anticipated that several variables reported by Stallings (1978) that show high correlations with measured achievement might be effected by use of the TVRP materials. In general, it was expected that the interest value and familiarity of the script materials would encourage (a) reading aloud, (b) large group work, (c) student-initiated comments about reading, (d) correct answers to questions, and (e) laughter. It was also expected to discourage (f) solitary work, (g) time spent by the teacher organizing the work, (h) corrections for behavior, (i) student errors, and (j) time spent by the teacher not interacting with the students (e.g., grading papers).

Screening phase. The observation program was conducted in two phases, the first of which was carried out to provide coding experience and to determine if unexpected effects would appear. Two observers visited four classes in Minneapolis for two lessons each in January, 1979. Two sixth grade and two eighth grade classes were visited. One class at each grade level was using the TVRP materials and one class was using the standard reading program. Data from these observations were hand scored to determine if any differences could be observed between TVRP and Non-TVRP classes, or between grades six and eight. Table 33 contains a summary of the data obtained during the first phase.

Results did not clearly favor either the TVRP or standard instruction. At grade six, all the Snapshot variables favored the TVRP class. That is, behaviors positively correlated with achievement were observed more often in the TVRP class and behaviors with negative correlations were observed less frequently. Scores on the Five Minute Interaction Variables were not so clear-cut. The TVRP class received higher scores for behavior corrections, negative comments about the lesson and errors than the Non-TVRP class, while the Non-TVRP class made more positive comments about the reading lessons and more correct answers were acknowledged. However, the largest differences between these two classes were in the amount of time spent organizing the lesson, the number of questions asked by the students about assignments, and the amount of time spent reading aloud. All three figures favored the TVRP group. While it could not be concluded from observing these two classes that the TVRP was the perfect instructional tool, sufficient evidence existed to justify additional observation with other classes.

The eighth grade scores were also mixed. Less solitary work was done in the TVRP classroom and the teacher spent a large amount of time working without

Table 33
Class Observation Data: Screening Phase
Two Sixth and Two Eighth Grade TVRP and
Non-TVRP Classes, Minneapolis

| Direction of Correlation w/ Achievement | | Tallies Grade 6 T | Grade 6 C | Grade 8 T | Grade 8 C | Difference Needed For Significance (n=15) |
|---|---|---|---|---|---|---|
| | **Snapshot Variables** | | | | | |
| + | Reading aloud | 7 | 0 | 5 | 3 | 9.35 |
| - | Small or large group writing in workbook | 5 | 8 | 6 | 4 | 9.85 |
| - | Individual working with kit or library book | 0 | 11 | 4 | 2 | 6.49 |
| - | No materials | 2 | 1 | 0 | 1 | 1.18 |
| - | Individuals: no materials | 0 | 1 | 0 | 1 | .58 |
| - | Large group: no materials | 0 | 4 | 0 | 2 | 1.18 |
| - | Making assignments/explanation | 1 | 8 | 2 | 8 | 4.50 |
| | **Five Minute Interaction Variables** | | | | | |
| - | Organization | 9 | 91 | 226 | 171 | 117.10 |
| - | Behaviors | 4 | 1 | 2 | 7 | 57.30 |
| | Student initiated comment, reading | 0 | 10 | 6 | 23 | 10.54 |
| | Student initiated comment, negative | 2 | 0 | 0 | 0 | |
| | First interaction, question | 8 | 54 | 5 | 40 | 27.41 |
| + | Acknowledge correct answer | 31 | 56 | 21 | 21 | 12.59 |
| + | Praise | | | | | |
| + | Correction | 51 | 20 | 50 | 9 | 18.94 |
| - | Teacher work, no kids | 0 | 35 | 125 | 48 | |
| | Laughter-reading | 14 | 0 | 15 | 6 | |
| | No answer, doesn't know | 5 | 4 | 8 | 0 | 1.94 |
| + | Reading aloud | 245 | 0 | 137 | 0 | |

interacting with the students. This teacher also spent more time organizing the class and more students did not know the answers to questions. However, the TVRP class again had fewer questions about the assignments, spent more time reading aloud and there were fewer behavior corrections. There is evidence from both grade levels that the materials generated more laughter. In addition to the scores on the critical variables, Table 33 also lists the difference which would be judged significant, given a sample of 15 teachers in each group. These scores were estimated from means and variances reported by Stallings and Hentzell (1978) with the power available in a sample size of 15 as determined by the Cohen procedure (Cohen and Cohen, 1975, pp. 117-120). It was observed here and reported by others (Stallings and Hentzell, 1978) that the variability on these scores is quite high. Therefore, a sizeable difference is required to yield a significant finding. The observed differences in the first observation phase did not approach the level needed for significance (the level at which inferences could be drawn about program effects). It was decided, after consultation with Capital Cities, not to expand the second phase to a larger number of classes even though the potential impact of descriptive data is substantially less than that of inferential data.

Data Collection

The second phase of observations in Minneapolis was scheduled for the week of March 12, immediately preceding the telecast. Arrangements for classroom visits were made by Minneapolis personnel. Because only three observers were involved, it was impossible to schedule observations for eight classes in the mornings and very few teachers have reading instruction in the afternoons. In addition, despite a two month advance notice, scheduling conflicts arose which made it impossible to arrange three consecutive visits for all teachers. In view of these difficulties it was decided to confine observation to sixth grade classes only, one TVRP and one Non-TVRP teacher in each of three schools in

three different sections of the city. Two observers went to two schools. A third observer saw two teachers in one school. A seventh teacher (TVRP) agreed to two visits. In all, four TVRP teachers and three Non-TVRP teachers were observed during that week. All teachers but one were observed for three lessons of approximately 45 minutes each.

Observation booklets completed during these sessions were processed by INTRAN Corporation, a data management service, who transferred data from booklets to magnetic tape. Stanford Research Institute then transformed the data to interpretable scores and returned the data to CERE.

Results

Each observation booklet yields 387 scores of which 18 are relevent to this research. CERE further reduced the available data by calculating an average score on each of the 18 variables for each teacher over the three observation sessions. A mean score for TVRP teachers and for Non-TVRP teachers was then calculated for each of the 18 variables. These scores, along with a description of the variables are reported in Table 34. The differences between the two groups on the Snapshot variables are very small, although there is some evidence that TVRP classes read aloud more than the others.

The Five Minute Interaction variables show a consistent advantage for the TVRP classes. The first seven variables have exhibited positive correlations with achievement in earlier research, which means that high scores are associated with higher levels of achievement. The TVRP classes have higher scores on all variables. The next seven variables are negatively related to achievement, which makes low scores desirable. All TVRP scores except the Behavior Correction score are lower than the comparable Non-TVRP scores. There is clearly a trend toward positive classroom conditions which is associated with the use of the TVRP. However, considerable caution must be used in interpreting these

Table 34
Minneapolis Observation Scores, Means and Standard Deviations

| Variables Descriptor | TVRP $\bar{X}$ | TVRP SD | Non-TVRP $\bar{X}$ | Non-TVRP SD |
|---|---|---|---|---|
| **Snapshot** | | | | |
| Teacher working with large group | 10.92 | 1.48 | 11.00 | 1.00 |
| Teacher working with one child | .25 | .75 | .33 | 2.25 |
| Teacher working with small group | 2.50 | .86 | 3.33 | .47 |
| Class reading aloud | 14.14 | 9.43 | 11.89 | 13.49 |
| **Five Minute Interaction** | | | | |
| Student initiates interaction | 51.00 | 16.13 | 28.30 | 18.23 |
| Teacher speaks to entire class | 32.62 | 12.83 | 20.33 | 5.74 |
| Student extended response | 6.00 | 3.28 | 3.66 | 1.08 |
| Teacher social comments | 8.82 | 11.91 | 3.23 | 1.81 |
| Student comments related to reading | 3.67 | 3.26 | 2.64 | 2.89 |
| Teacher praise | 18.42 | 7.61 | 14.03 | 4.52 |
| All reading-related interactions | 226.41 | 21.74 | 176.38 | 41.66 |
| Corrective feedback (reading) | 9.52 | 6.12 | 13.33 | 10.90 |
| Behavior correction | 2.75 | 1.92 | 2.40 | 1.21 |
| No response to question | .75 | .50 | 1.00 | 1.00 |
| Student did not know answer | .32 | .22 | 1.66 | 1.29 |
| Teacher not interacting with student | 3.62 | 6.27 | 80.66 | 45.42 |
| Student negative comments- reading | .25 | 1.00 | .33 | 1.00 |
| Teacher organizing | 41.52 | 8.44 | 60.10 | 43.66 |

results, as the variance around each of the means is quite high. For example, the average number of times a teacher spoke to the whole class varied from one to 65 for the TVRP teachers and from six to 33 for the Non-TVRP teachers. Obviously it would be difficult to say that a consistent effect is present with such high variability.

Some additional observation was done in two TVRP classes in Dallas to determine if any behavior changes occurred when the script materials were used after the program had been aired. Two TVRP classes were observed on two days, immediately preceding and immediately following the broadcast. Scores were computed in the manner described above for seven variables and listed in Table 35. The first six scores are indices of task orientation or interest. The last score reflects time spent organizing the lesson or time off-task. Scores on four of the first six variables declined for both teachers between the first and second days. Scores on the last variable increased on the second day. This seems to indicate that learning conditions are not as favorable when the TVRP materials are used after the broadcast. The same caution must be used with these results as with the above findings.

## Discussion

The Reading Questionnaire and observation data do not provide unequivocal answers about the classroom effects of the Television Reading Program. Although TVRP teachers reported a significant increase in enthusiasm on the RQ-2, Non-TVRP teachers in Minneapolis also reported a significant increase in enthusiasm when describing the standard instruction materials. In addition, TVRP teachers apparently see poorer discipline and more reading errors when the script materials are being used (responses to RQ-2). This effect on Discipline scores is repeated when TVRP and Non-TVRP Minneapolis scores are compared. In sum, the Reading Questionnaire data present a modestly negative picture for the Television

Table 35
Scores for Two Dallas Teachers on Selected Observation Variables: Lessons Immediately Preceding and Following the Program Broadcast

| Observation Variable[1] | Observation Session | | | |
|---|---|---|---|---|
| | First | | Second | |
| | Teacher 1 | Teacher 2 | Teacher 1 | Teacher 2 |
| Student Initiated Interactions | 10 | 24 | 0 | 1 |
| Student Extended Responses | 0 | 0 | 0 | 0 |
| Teacher Socializing | 42 | 15 | 28 | 7 |
| Student Comments on Lesson | 3 | 0 | 0 | 0 |
| Correction for Behavior | 0 | 0 | 0 | 0 |
| Teacher Organizing | 4 | 0 | 8 | 2 |
| All Reading Interactions | 219 | 169 | 157 | 148 |

[1]Stanford Research Institute Secondary Observation Instrument

Reading Program. These results are not consistent with the 1977-78 results.

To add to the pessimism, the Chicago data do not agree with the rest of the data. No positive findings for the TVRP were obtained, and significantly poorer scores were obtained on the RQ-2 for the Enthusiasm, Model Child and Low Yield subscales. It must be noted that the Chicago teachers returned these questionnaires at a considerably lower rate than teachers from the other sites, and therefore the findings cannot be considered as sound as other data.

Results of the classroom observations provide a positive picture of the TVRP effects. Specifically, behavior which is positively associated with improved achievement scores occurs more frequently when the TVRP materials are used and behavior which is negatively related to achievement occurs less regularly. However, because of the small number of teachers involved and the high variability of measures from occasion to occasion and from one teacher to another, these findings must be considered tentative.

Perspective on the relative value of the RQ data vs. the observation data results may be aided by Hook and Rosenshine's (1979) review of teacher self-report accuracy. Their conclusions are that teachers consistently give inaccurate absolute estimates of classroom events. Their estimates are generally lower than the actual occurrence, as measured by an observer. On the other hand, global reports of classroom conditions and estimates of the relative occurrence of events are reasonably accurate. It is this last finding which may account for the difference between the 1978 and 1979 data. During the first evaluation phase, the TVRP teachers were asked to rate the standard materials and the TVRP materials at the same time. If Hook and Rosenshine are correct, this comparative framework may have given the teachers a yardstick which was easier to use than the absolute judgments we asked them to make during the second year. Although we may question the validity of the teacher

responses relative to data which could have been gathered by direct observation, the teachers are quite reliable in their judgment. They do not see dramatic improvement in their classes (in terms of behaviors they can count) when the TVRP materials are being used.

If the observation data were as reliable as they are valid, the questionnaire results could be discounted in favor of the objective data. Unfortunately, gathering observations is both expensive and time-consuming. It requires that at least twenty teachers be observed on five occasions (Medley and Mitzel, 1958) and that the scope of the observed lessons be restricted or scripted in some way (Winne, 1979). Of course, it is also important that the observers be very skilled and that observer agreement measures should be above .90 (Frick and Semmel, 1978). The observation carried out in this research was not designed to provide uncontestable data, but rather an indication (first hand) of the effects of script use. The indications are that several types of classroom events supportive of reading achievement are associated with use of the TVRP and that extensive comparative observation would be a fruitful activity in documenting the benefits of the Television Reading Program.

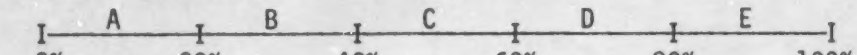
# APPENDIX A

## Reading Questionnaire

SECTION 2: READ CODING KEY AND UNDERLINED SENTENCE BEFORE ANSWERING ITEMS. IF YOUR RESPONSE FALLS ON THE LINE BETWEEN TWO LETTERS, CHOOSE THE LETTER ON THE RIGHT.

WHAT PERCENTAGE OF YOUR LESSON TIME IS SPENT ON THE FOLLOWING ACTIVITIES?

CODING KEY FOR ITEMS 14-21




14. Reading aloud.
15. Reading silently.
16. Discussing the reading selection.
17. Doing written exercises.
18. Working alone.
19. Working in small groups.
20. Working as a class.
21. Working at an activity that they choose.

SECTION 3: READ CODING KEY AND UNDERLINED SENTENCE BEFORE ANSWERING ITEMS.

HOW MANY TIMES DURING THE READING PERIOD MUST YOU USUALLY INTERRUPT THE LESSON TO ASK STUDENTS TO DO THE FOLLOWING?

CODING KEY FOR ITEMS 22-26

| A | B | C | D | E |
|---|---|---|---|---|
| NEVER | 1 or 2 TIMES | 3 or 4 TIMES | 5 or 6 TIMES | MORE THAN 6 TIMES |

22. Stop talking to each other.
23. Pay attention.
24. Stop reading or writing unrelated material.
25. Continue working on a written assignment.
26. Follow directions.

# READING QUESTIONNAIRE

THIS QUESTIONNAIRE WILL HELP TELL US HOW YOUR STUDENTS RESPOND TO THE READING INSTRUCTION MATERIALS YOU ARE NOW USING. EACH OF THE FOUR SECTIONS USES A DIFFERENT ANSWER CODING KEY. READ THE KEY AND THE UNDERLINED SENTENCE BEFORE ANSWERING THE ITEMS. IF YOUR RESPONSE FALLS ON A LINE BETWEEN TWO LETTERS, CHOOSE THE LETTER ON THE RIGHT. RECORD ALL ANSWERS ON THE SHEET PROVIDED. IF AN ITEM DOES NOT APPLY TO YOUR CLASS, LEAVE THE ANSWER SPACE BLANK AND GO ON TO THE NEXT ITEM. THANK YOU FOR YOUR COOPERATION.

SECTION I: WHAT PERCENTAGE OF YOUR CLASS USUALLY DO THE FOLLOWING?

CODING KEY FOR ITEMS 1-9

| | A | | B | | C | | D | | E | |
|---|---|---|---|---|---|---|---|---|---|---|
| I | | I | | I | | I | | I | | I |
| 0% | | 20% | | 40% | | 60% | | 80% | | 100% |

EXAMPLE: Leave class early.
If 50% of your class fit this description you would choose "C" since this interval contains your response. You would then mark "C" on the answer sheet under the appropriate item number.

1. Complete most of the written exercises that are assigned for reading lessons (consider both in-class and take-home assignments combined).
2. Read silently as directed during the lesson.
3. Take reading materials home when not assigned.
4. Frequently volunteer to answer questions about the reading lesson.
5. Volunteer more information than is asked for during class discussion.
6. Find the reading materials very interesting.
7. Can explain what a reading passage means after having read it silently (consider only the materials currently in use by your class).
8. Have trouble understanding the meanings of new words encountered in the reading lesson.
9. Make more than five errors in reading aloud a moderately sized paragraph (about 15 sentences).

SECTION II: HOW MANY STUDENTS USUALLY DO THE FOLLOWING?

CODING KEY FOR ITEMS 10-13

| A | B | C | D | E |
|---|---|---|---|---|
| 0-3 | 4-7 | 8-11 | 12-15 | 16 or more |

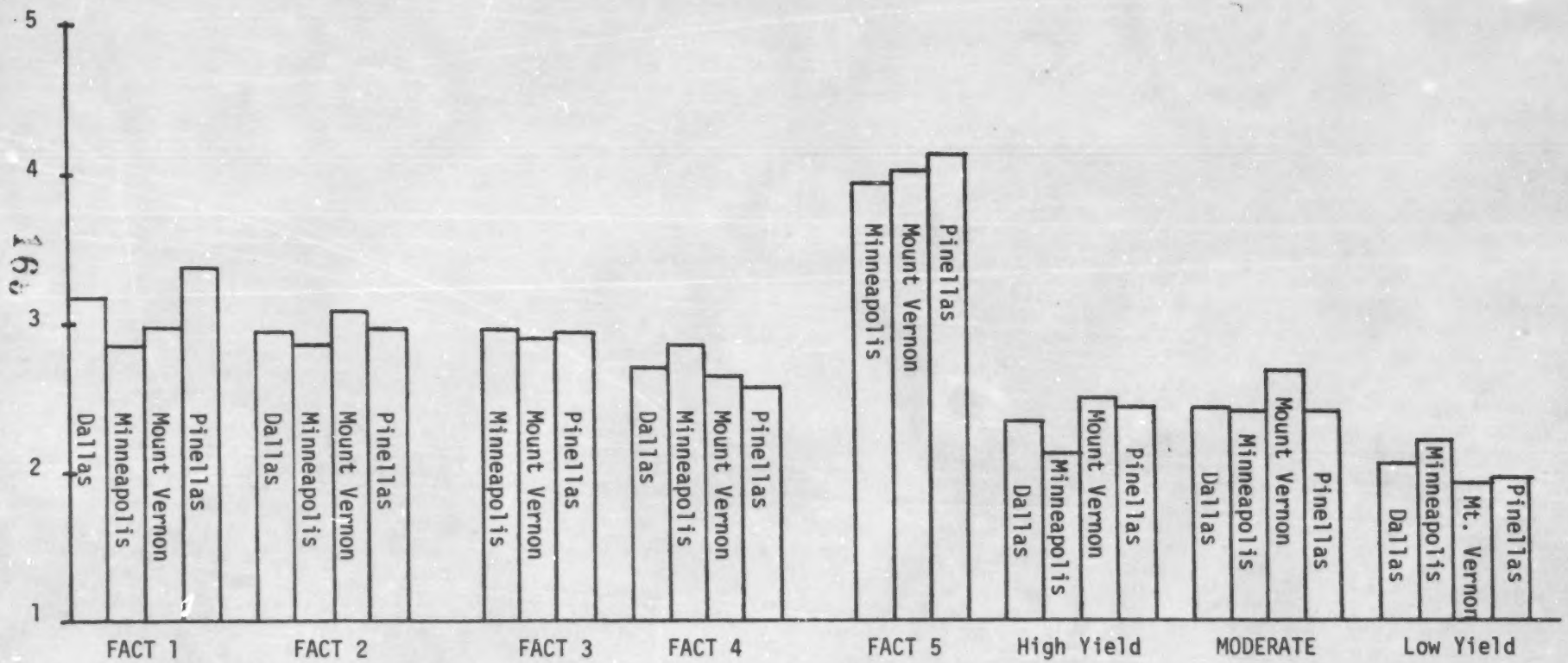
10. Do not pay attention during most of the reading lesson.
11. Are disorderly during the reading lesson.
12. Cause interruptions during the reading lesson.
13. Daydream during the reading lesson.

PLEASE COMPLETE THE REVERSE SIDE

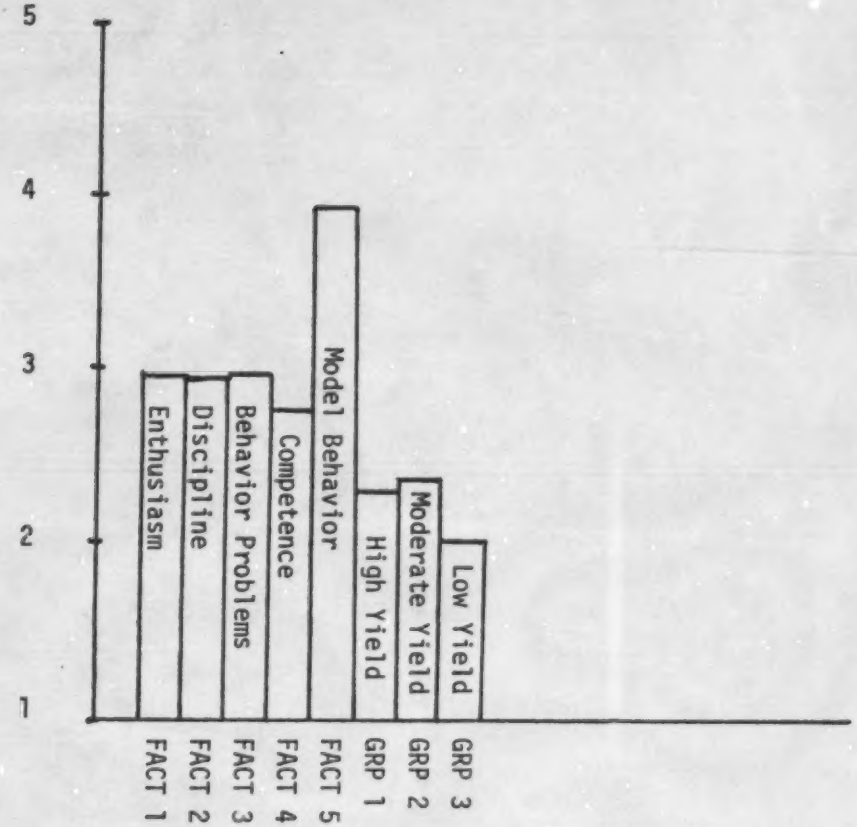
# APPENDIX B

## Preliminary Findings from Reading Questionnaire 1

Summary of RQ for each Site for Grades 4 to 6



Summary of RQ Across All Sites & Grades




Summary Points Across All Sites & All Grades

(1) 50% of all students show enthusiastic behavior

(2) Reading lesson interrupted 3 or 4 times to discipline Ss

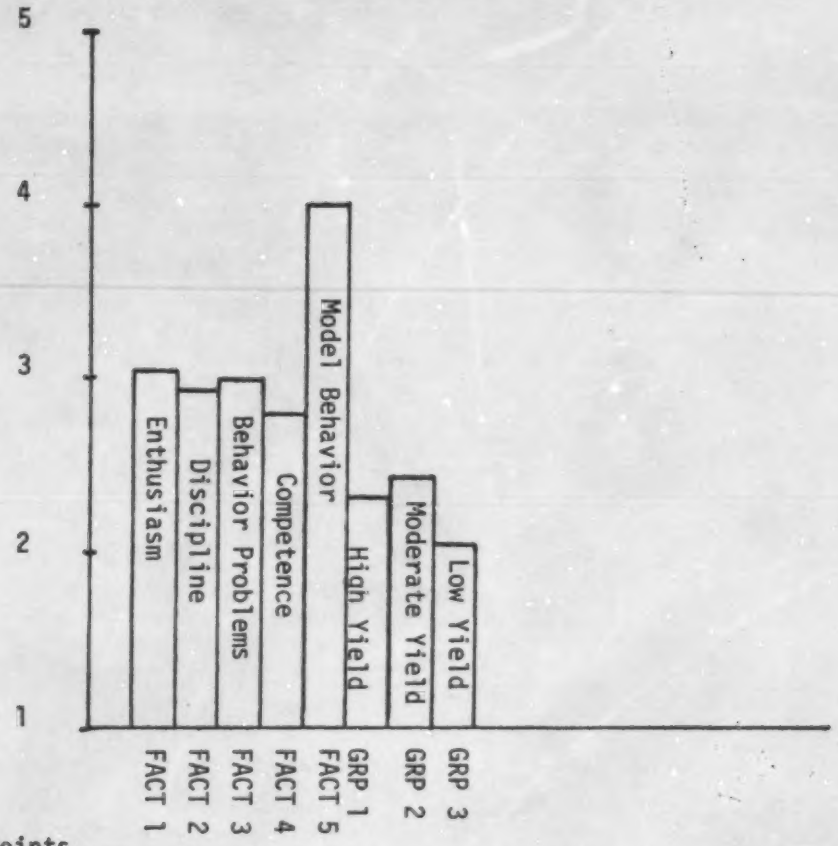
(3) 50% of the students cause some sort of behavior problem

(4) 45% do not have problems regarding reading competence

(5) 70% of the Ss demonstrated model behavior

(6) Approximately 30% of class time spent on low yield activities. 35% and 35% spent on moderate and high yield

Summary of RQ Across Sites For Grades 4 to 6




Summary Points

(1) 50% of the students show enthusiastic behavior

(2) Reading lesson interrupted 3 or 4 times to discipline Ss

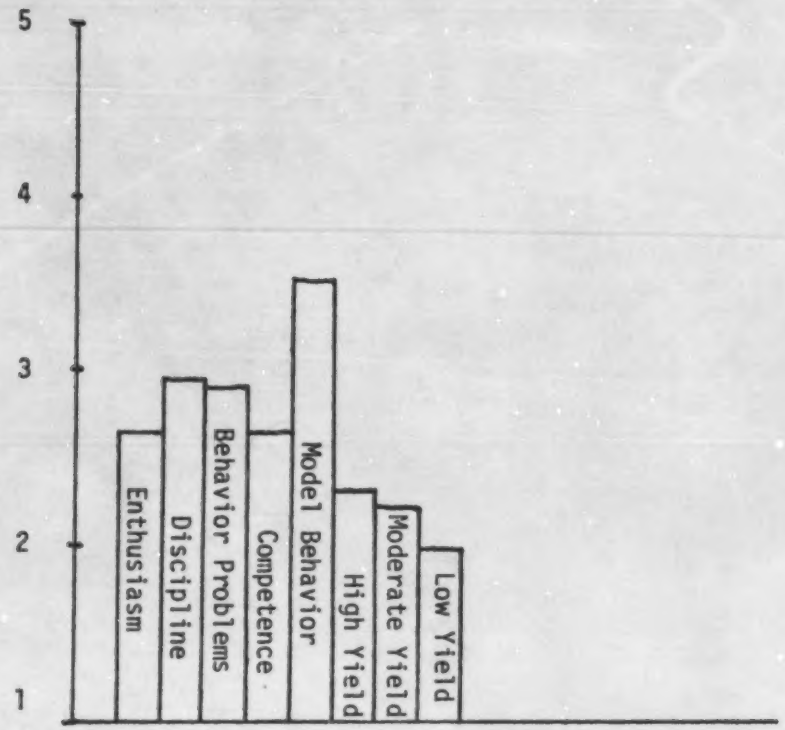
(3) 50% of the students cause some sort of behavior problem

(4) 45% do not have problems regarding reading competence

(5) 70% of the Ss demonstrate model behavior

(6) Approximately 30% of class time spent on low yield activities. 35% and 35% spent on middle and high yield activities

Summary of RQ Across Sites For Grades 7 to 11




Summary Points

(1) 43% of students show enthusiastic behavior

(2) Reading lesson interrupted 3 or 4 times to discipline Ss

(3) 50% of the students cause some sort of behavior problem

(4) 43% do not have problems regarding reading competence

(5) 60% of the Ss demonstrate model behavior

(6) Approximately 30% of class time spent on low yield activities. 35% & 35% spent on middle and high yield activities

# APPENDIX C

Selected Coding Sheets From the Secondary Observation Instrument

# SECONDARY OBSERVATION INSTRUMENT

**DIRECTIONS:** Make sure that all of the identifying information has been entered on the Classroom Summary Information form prior to any observation. Do not make any stray marks outside the boxes provided in places where written information is required. Make sure you code the classroom summary information form booklet Identification Number in the I.D. grid of all booklets used in the observation.

| FOCUS PERSON NUMBER | GRADE LEVEL | OBSERVER NUMBER | OBS. NO. | DATE | BOOKLET NUMBER |
|---|---|---|---|---|---|
| | From / To | | | MO. / DAY / YR. | |

3479

| SUBJECT IDENTIFIER | |
|---|---|
| READING | ○ |
| MATH | ○ |
| ENGLISH | ○ |
| SOC. SCI. | ○ |
| SCIENCE | ○ |
| FINE ART | ○ |
| CAREER ED. | ○ |
| VOC. ED. | ○ |
| OTHER | ○ |

| A | B |
|---|---|
| | |

A. No. of Male students enrolled

B. No. of Female students enrolled

Teacher _____

School _____

City _____

Observer _____

⓪①②③④ Number of teachers that regularly work in the classroom

⓪①②③④ Number of aides that regularly work in the classroom

⓪①②③④ Number of volunteers present

⓪①②③④ Number of parents/visitors present

(Y) (N) Group by ability within class

**Total Class Duration**

| | |
|---|---|
| 20 minutes | 55 minutes |
| 25 minutes | 60 minutes |
| 30 minutes | 70 minutes |
| 35 minutes | 80 minutes |
| 40 minutes | 90 minutes |
| 45 minutes | 100 minutes |
| 50 minutes | 110 minutes |
| | 120 minutes |



Intran -1326B - SE712 - 5432

# SRI CLASSROOM SNAPSHOT

| MATERIAL → / ACTIVITY ↓ | | 01 Textbook | 02 Workbook Worksheet | 03 Test | 04 Game/ Manipulative Material | 05 Reading/ Math Kit | 06 Machine Chalkboard | 07 Non Curricular Reading | 08 No Material |
|---|---|---|---|---|---|---|---|---|---|
| 01 Reading Silently | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 02 Reading Aloud | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 03 Making Assignments | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 04 Instruction/ Explanation | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 05 Discussion/ Reviewing Assignments | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 06 Practice Drill | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 07 Written Assignments | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 08 Taking Test Quiz | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 09 Non-math or non-reading Instruction | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 10 Social Interaction (T A O i) | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 11 Student Univolved | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 12 Being Disciplined | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| 13 Classroom Management (T A O i) | T | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | A | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | O | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |
| | i | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E | 1 S L E |

**For this Snapshot Only**

| | |
|---|---|
| Number of Adults in Classroom | 0 1 2 3 4 5 6 7 8 9 |
| Number of Students in Classroom | 0 1 2 3 4 5 6 7 8 9<br>0 1 2 3 4 5 6 7 8 9 |
| Sequence No. | 1 2 3 4 5 |

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# FIVE MINUTE INTERACTION

| Focus Person I.D. | Act. Start |
|---|---|
| | |
| 0 0 0 0 0 0 | 0 0 |
| 1 1 1 1 1 1 | 1 1 |
| 2 2 2 2 2 2 | 2 2 |
| 3 3 3 3 3 3 | 3 3 |
| 4 4 4 4 4 4 | 4 4 |
| 5 5 5 5 5 5 | 5 5 |
| 6 6 6 6 6 6 | 6 6 |
| 7 7 7 7 7 7 | 7 7 |
| 8 8 8 8 8 8 | 8 8 |
| 9 9 9 9 9 9 | 9 9 |

| Time Started | |
|---|---|
| Hrs. | Min. |
| 6 1 | 0 0 |
| 7 2 | 1 1 |
| 8 3 | 2 2 |
| 9 4 | 3 3 |
| 10 5 | 4 4 |
| 11 6 | 5 5 |
| 12 7 | 6 |
| 8 | 7 |
| | 8 |
| | 9 |

| Seq. No. |
|---|
| |
| 1 |
| 2 |
| 3 |
| 4 |
| 5 |

| 1 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 2 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 3 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 4 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 5 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 6 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 7 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 8 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 9 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 10 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 11 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 12 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 13 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 14 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 15 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 16 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 17 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 18 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 19 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 20 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 21 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 22 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 23 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 24 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 25 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 26 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 27 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 28 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 29 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 30 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 31 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 32 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 33 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 34 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 35 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 36 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 37 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 38 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 39 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 40 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 41 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 42 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 43 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 44 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 45 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 46 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 47 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 48 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 49 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 50 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 51 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 52 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 53 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 54 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 55 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Ca | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 66 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 66 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 57 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 67 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 58 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 68 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 59 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 69 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 60 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 70 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 61 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 71 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 62 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 72 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| 63 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| Activity Stopped |
|---|
| 0 1 2 3 4 5 6 7 8 9 |
| 0 1 2 3 4 5 6 7 8 9 |

| 64 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

| Time Stopped | |
|---|---|
| Hour | Minute |
| 6 7 8 9 10 11 12 | 0 1 2 |
| 1 2 3 4 5 6 7 8 | 3 4 5 |
| | 0 1 2 3 4 |
| | 5 6 7 8 9 |

| 65 | Who | To Whom | What | How |
|---|---|---|---|---|
| NE | T A V | T A V | 1 10 2 20 3 | T C L N I |
| R | F M S | F M S | 4 5 6 7 8 | RM G W D T |
| Co | L E O | L E O | 9 10 11 12 X | B O S P NV |

## Chapter V

## The Program Questionnaire

The purpose of the Television Reading Program Questionnaires (PQ) was to assess the opinions of the teacher about the instructional and student motivational effects of the TVRP scripts and exercises. Capital Cities and CERE jointly decided to evaluate a sample of three sets of instructional materials in the early, middle and late segments of the year in order to detect change across time. The script materials selected for evaluation were for the Spiderman, Happy Days, and Mork and Mindy programs in November, January and April, respectively. Teachers using the TVRP received identical PQs to complete for each of these three programs.

### Instrumentation

The questionnaire (Appendix A) consisted of 23 items which asked about the use of the script and exercises during instruction and about the response of the students to the script choice. The first section (Part I) of the questionnaire contains seven general questions about the appeal of the TVRP. Responses to questions one to four were selected from a five-alternative Likert-type scale using a checkoff response format. Questions five to seven were open-ended and asked about the time spent on TVRP instruction and specific problems encountered in using the materials. The eighth question (added to PQ-3) asked the teachers if they would be interested in using the materials again. Response choices to question eight were "yes," "no," and "uncertain."

The second section (Part II) of the questionnaire contained a list of the seventeen types of exercises included in the script materials. Teachers were asked to check the exercises used with their classes and to indicate whether each exercise was used in addition to, or instead of comparable available exercises from other instructional materials, or if no comparable exercise was

available for their use. They were also asked to check the exercises which did not contain enough items and to list those exercises which the students had difficulty completing.

The seventeen exercise categories listed in the second section were selected after consultation with curriculum writers responsible for the exercise development who advised CERE on the types of exercises planned for 1978-79. Thus, CERE was assured that the exercises listed on the questionnaire would be represented in the scripts sampled.

The program questionnaire data were intended to serve predictive, descriptive, and replicative functions.

Predictive

The percent of instructional time involving the TVRP materials and the type of activities used most frequently should predict areas of skill development most sensitive to achievement measurement. Items one to six in the first section of the questionnaire and items one to seventeen in the exercise checklist were used to assess the level of material use. The "addition to" opinion, (exercise checklist) permits identification of skill areas receiving extra emphasis which could be reflected in improved achievement test scores.

Descriptive

A description of the instructional use of the materials and the appeal to the students, when examined by grade level, provides a focus for marketing efforts and an index for prospective purchasers to use to judge the applicability for their system. Items one, two and six, in the first section and the exercise checklist in section two provided data for estimating the compatability of the TVRP with the basic instruction program. Items three, four and five

estimate the attractiveness of the materials. The "in place of" options on the exercise checklist show instances in which teachers prefer the TVRP materials to others available. The "no other like this" option identifies unique exercises.

Replicative

The questionnaire was constructed to provide validation of Phase I evaluation findings that (a) certain types of activities were used more than other, (b) teachers in grades four, five and six used the materials more than teachers in the upper grades, (c) lower grade teachers prefer different programs than upper grade teachers, and (d) the suburban site used the materials differently than the urban sites (Barnette, Szabo, Lamiell-Landy, 1978).

A number of questions can be answered from data collected using the Program Questionnaires: (a) how frequently are particular exercises used, (b) what problems were encountered by the teachers and students, (c) is there a pattern of program preference, and (d) are teachers interested in continuing to use the program.

## Administrative Procedures

Questionnaires were distributed from the Capital Cities Communication, Inc. office to all sites participating in the evaluation on November 9, January 19, and April 20. Questionnaires were completed by the end of the telecast week and returned to CERE by December 3, February 4, and May 6, respectively. Collection was monitored by site liaison persons. Key punching and summary analyses were completed by CERE personnel.

## Analyses

Two types of analyses were completed for the PQ data: a tabulation of summary statistics of response alternatives selected by teachers, and a content analysis of comments made to open-ended questions. The first analysis gives comparative figures for the relevance of the materials and the degree to which the exercises were used in ungraded, intermediate and junior high classes within each of the six participating sites. The second analysis identifies features of the program which are most in need of improvement and also the proportion of the teachers who wish to continue using the program.

## Results

For the sake of simplicity, the results of the data cross tabulation presented in the text are averaged across sites. Complete tables presenting data within grade level for each site are contained in Appendix B. The content analysis results are also presented in aggregated form in the text, while site-specific information is found in Appendix C.

### Summary Statistics

Return rate. Table 36 contains the number of returned forms for each site grouped by grade level for each of the three questionnaires. Data are presented as fractions so that relative contributions of each site can be easily determined. The higher the proportion of returned forms, the greater the confidence which may be placed in the results. The average number of returned questionnaires is 390.

General reaction to program materials. Table 37 illustrates the cross tabulation of responses to items one through four (PQ Section I) for the three program questionnaires. The percentages of teacher responses which are favorable to the program are contained in this table. For example, Item two asked teachers

Table 36
Program Questionnaire Return Rates for Proportion of Teachers From Each Site Returning Questionnaires in Ungraded,[1] Intermediate,[2] and Junior High Classes

| Site | PQ-1 | | | PQ-2 | | | PQ-3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ungr | 4-6 | 7+ | Ungr | 4-6 | 7+ | Ungr | 4-6 | 7+ |
| Minneapolis | | | | | 56/69 | 14/18 | | 48/69 | 13/18 |
| Chicago | 63/ | | | 86/ | 30/ | 34/ | 54/ | 18/ | 20/ |
| Mount Vernon | | 12/16 | 1/2 | | 16/16 | 1/2 | | 14/16 | 1/2 |
| Pinellas County | | 20/29 | 6/9 | | 22/29 | 4/9 | | 22/29 | 2/9 |
| Dallas | | 93/142 | 36/44 | | 132/142 | 35/44 | | 142/142 | 38/44 |
| Bullhead City | | | 4/6 | | | 5/6 | | | 5/6 |

[1]Grade level identifiers were not available for most Chicago classes.

[2]No intermediate grade classes participated in Bullhead City.

Table 37
Program Questionnaire Response Tabulation, Items 1-4
Percent of Responses Favorable to Program for Ungraded Classes, Grades 4-5, Grades 7-12

| Item | PQ-1 Spiderman | | | PQ-2 Happy Days | | | PQ-3 Mork & Mindy | | |
|---|---|---|---|---|---|---|---|---|---|
| | Ungraded | Grade 4-6 | Grade 7-12 | Ungraded | Grade 4-6 | Grade 7-12 | Ungraded | Grade 4-6 | Grade 7-12 |
| Item 1 (Read most or all of script) | 63 | 64 | 44 | 78 | 74 | 75 | 84 | 81 | 94 |
| Item 2 (Right difficulty) | 54 | 52 | 67 | 85 | 77 | 85 | 89 | 76 | 88 |
| Item 3 (Right content) | 71 | 61 | 72 | 98 | 91 | 97 | 91 | 93 | 92 |
| Item 4 (Most or all students liked script) | 64 | 73 | 66 | 97 | 94 | 88 | 94 | 96 | 95 |

to indicate whether the reading level of the script was appropriate for the class. The teachers could respond that the script was too hard for everyone, too hard for most, about right for most, too easy for most, or too easy for everyone. The figure in Table 37 shows the percentage of responses to the third alternative, "about right for most," indicating the size of the group who felt that the script materials were appropriate for their classes. These data are presented separately for ungraded, intermediate, and junior high classes.

Generally, the Spiderman script received lower ratings than either the Happy Days or Mork and Mindy scripts. The weighted average positive rating (overall four items) for Spiderman was 62.6%. The rating was 85.6% for Happy Days and 88.3% for Mork and Mindy.

Item 1 reflects the degree to which the script was used in reading instruction. Sixty percent (weighted average) of the responding teachers had their classes read most or all of the Spiderman script. Most or all of the Happy Days script was used by 75% of the teachers, while 84% used most or all of the Mork and Mindy script. While the increased use of the scripts through the year probably reflects the greater appeal of the later scripts, it also indicates increasing program appeal with greater familiarity. The average positive ratings for the last two scripts differ by about three percent, while the average level of use for these two scripts differs by about 10%.

Item 2 statistics show the proportion of teachers who felt that the scripts in question were the appropriate reading level for their classes. A much lower rating was given to Spiderman than to the other two scripts, which received roughly comparable ratings. A consistent grade level difference is apparent here. Twelve percent more junior high teachers indicate an appropriate reading level. Readability estimates, calculated by the Fry method, were grade five

level for the Spiderman script and grade three level for the Happy Days and Mork and Mindy scripts.

Data for Item 3 show the proportion of teachers who felt that the script content was appropriate for their classes. The Spiderman script again received the lowest rating of the three. Ratings given to the other two scripts, were quite high (averaging 94%), indicating a very positive attitude toward the use of television scripts as classroom reading materials. This finding was consistent across grade levels.

Similar results appear in the analysis of responses to Item 4. Spiderman was not as well received by the students as were Happy Days and Mork and Mindy.

Inspection of Tables 1, 2 and 3 contained in Appendix B indicates that the Dallas teachers who returned these questionnaires at a high rate, gave consistently low ratings (compared to other sites) for use of the script materials in the class, appropriateness of reading level and appropriateness of content. However, their ratings for script appeal were comparable to those from the other sites. For purposes of comparison, the Minneapolis data, based on comparable return rates, is consistently more favorable to all aspects of the program.

The relatively poor ratings given the Spiderman script indicate that teachers discriminate among the script offerings, and do not give favorable responses casually. The increasing usage of the scripts over the year indicates that extended exposure to the program results in increased utility for the teachers. The high ratings given to the appeal of the materials indicate that the program is extremely attractive to the students, and that the teachers recognize this. The low ratings given to the Spiderman script indicate a need for careful screening of script content prior to selection. Teachers should probably be involved in the screening of script materials.

Use of skill exercises. The response format for Part II of the questionnaire differs from Part I. Teachers were asked to check which of the seventeen types of available exercises were used in instruction. Tabulation of this data gives an indication of the types of exercises which the teachers found most useful, as well as the skill areas which received the most emphasis throughout the year. However, no direct questions were asked about the appropriateness or the appeal of the exercises. Instead, teachers were asked to place check marks under the headings "no other exercise like this" and "too few items." Those exercises receiving checks under these headings were considered to have unique appeal.

Results are presented separately in Table 38 for each of the three program questionnaires for ungraded, intermediate and junior high classes. More complete information is contained in Appendix D, Tables 4, 5, and 6, which show the results for individual sites. Major departures from the average figures will be noted in the text.

The general pattern of exercise use is similar to results found for Part I of the questionnaire: fewer teachers reported using exercises with the Spiderman script than with the Happy Days and Mork and Mindy scripts. This difference is most dramatic for junior high classes where the average use (lower for all seventeen types) was 51% for Spiderman, 82% for Happy Days, and 73% for Mork and Mindy. The figures are not as dramatic for grades four through five, but the average use increases from 70% to 79%. A difference of only 1% was noted for ungraded classes. However, the Spiderman program questionnaires from the ungraded classes were returned more than seven months after the materials were used, so memory may have affected the responses to this questionnaire. The ungraded classes responded similarly to the intermediate and junior high classes

Table 38
Program Questionnaire Response Tabulation, Items 1-17
Percent of Teachers Using Each Type of Exercise With
Ungraded Classes, Grades 4-6, Grades 7-12

| Exercise | Script: Spiderman Ungr | Spiderman 4-6 | Spiderman 7+ | Happy Days Ungr | Happy Days 4-6 | Happy Days 7+ | Mork & Mindy Ungr | Mork & Mindy 4-6 | Mork & Mindy 7+ |
|---|---|---|---|---|---|---|---|---|---|
| 1. Synonyms | 85 | 80 | 57 | 85 | 88 | 88 | 84 | 93 | 82 |
| 2. Antonyms | 78 | 76 | 54 | 84 | 88 | 85 | 84 | 91 | 80 |
| 3. Affixes | 80 | 75 | 54 | 75 | 80 | 74 | 63 | 84 | 70 |
| 4. Analogies | 73 | 61 | 44 | 82 | 62 | 75 | 88 | 79 | 78 |
| 5. Multiple Word Meanings | 86 | 77 | 54 | 79 | 84 | 92 | 71 | 82 | 80 |
| 6. Figurative Language | 84 | 68 | 42 | 80 | 83 | 87 | 79 | 83 | 79 |
| 7. Context | 92 | 83 | 54 | 91 | 91 | 97 | 92 | 91 | 90 |
| 8. Phrase Comprehension | 83 | 74 | 54 | 83 | 85 | 87 | 92 | 85 | 85 |
| 9. Facts and Details | 80 | 71 | 54 | 81 | 77 | 80 | 85 | 78 | 77 |
| 10. Facts vs. Opinion | 85 | 63 | 61 | 78 | 65 | 73 | 84 | 69 | 71 |
| 11. Inferences | 68 | 59 | 52 | 79 | 67 | 78 | 85 | 70 | 77 |
| 12. Conclusions | 78 | 69 | 56 | 81 | 71 | 86 | 87 | 75 | 71 |
| 13. Index | 56 | 60 | 30 | 46 | 57 | 61 | 37 | 64 | 43 |
| 14. Classification | 53 | 45 | 29 | 57 | 55 | 68 | 51 | 59 | 47 |
| 15. Sequencing | 78 | 70 | 46 | 85 | 82 | 85 | 88 | 73 | 71 |
| 16. Word Search | 84 | 87 | 59 | 93 | 87 | 88 | 92 | 89 | 74 |
| 17. Crossword | 88 | 88 | 58 | 93 | 86 | 85 | 94 | 78 | 70 |

Table 39
Use of Exercise
Rank Order By Percent Reporting Use
Grades 4-6

| Exercise | Questionnaire PQ-1 n=125 | PQ-2 n=256 | PQ-3 n=244 |
|---|---|---|---|
| 1. Synonyms | 4 | 2 | 1 |
| 2. Antonyms | 6 | 3 | 2 |
| 3. Affixes | 7 | 10 | 6 |
| 4. Analogies | 14 | 15 | 9 |
| 5. Multiple Word Meanings | 5 | 7 | 8 |
| 6. Figurative Language | 12 | 8 | 7 |
| 7. Context | 3 | 1 | 3 |
| 8. Phrase Comprehension | 8 | 6 | 5 |
| 9. Facts and Details | 9 | 11 | 10 |
| 10. Facts vs. Opinion | 13 | 14 | 15 |
| 11. Inferences | 16 | 13 | 14 |
| 12. Conclusions | 11 | 12 | 12 |
| 13. Index | 15 | 16 | 16 |
| 14. Classification | 17 | 17 | 17 |
| 15. Sequencing | 10 | 9 | 13 |
| 16. Word Search | 2 | 4 | 4 |
| 17. Crossword | 1 | 5 | 11 |

Table 40
Use of Exercises
Rank Order By Percent Reporting Use
Grades 7-12

| Exercise | Questionnaire PQ-1 n=47 | PQ-2 n=93 | PQ-3 n=79 |
|---|---|---|---|
| 1. Synonyms | 4 | | 3 |
| 2. Antonyms | 8.5 | | 4 |
| 3. Affixes | 8.5 | | 15 |
| 4. Analogies | 14 | | 7 |
| 5. Multiple Word Meanings | 8.5 | | 5 |
| 6. Figurative Language | 15 | | 6 |
| 7. Context | 8.5 | | 1 |
| 8. Phrase Comprehension | 8.5 | | 2 |
| 9. Facts and Details | 8.5 | | 11 |
| 10. Facts vs. Opinion | 1 | | 11 |
| 11. Inferences | 12 | | 9 |
| 12. Conclusions | 5 | | 12 |
| 13. Index | 16 | | 17 |
| 14. Classification | 17 | | 16 |
| 15. Sequencing | 13 | | 13 |
| 16. Word Search | 2 | | 10 |
| 17. Crossword | 3 | | 14 |

on the other two questionnaires. Over all sites and exercise types, the average proportion of teachers reporting exercise use is .66 for Spiderman, .80 for Happy Days, and .77 for Mork and Mindy.

Table 38 shows that the level of use for each type of exercise remained fairly consistent across the three scripts. For example, the synonyms exercises were used by a large percentage of both intermediate and junior high classes for each of the three programs while the use of classification exercises was consistently low. The seventeen exercise types were ranked according to proportion of teachers reporting their use for each of the three Program Questionnaires. These data are presented in Table 39 for intermediate grades and in Table 40 for junior high classes. The rank assigned for each of the exercise types was quite consistent across the three questionnaires, particularly for the intermediate grade data. Two types of exercises which changed rank dramatically from one questionnaire to the next are analogies and crossword puzzles. The analogy exercises rose from low to moderate usage for both intermediate and junior high classes, and the crossword puzzle dropped from high to low usage. The most frequently used exercises for both intermediate and junior high classes were (in order of their importance) synonyms, use of context clues for word definition, word search puzzles, phrase comprehension exercises, and exercises dealing with multiple word meanings. Exercises used least frequently by both groups were classification and indexing. Exercises asking for distinction between fact and opinion and inference were used less by junior high classes than by intermediate classes. Antonym exercises were used less by junior high classes than by intermediate classes although, overall, both groups used them rather heavily.

In general, exercises requiring less complex cognitive skill were used more often than exercises which were cognitively more demanding. Of the most heavily used exercises listed above, only one type involves meaning at a more

complex level than the single word. In contrast, exercise types such as drawing conclusions, use of figurative language, drawing inferences, distinguishing between fact and opinion, and completing analogies all ranked consistently in the bottom half. It seems clear that the teachers preferred the use of simpler types of exercises.

In general, use of the exercises was rather high, even for a less popular script like Spiderman which indicates that the exercises appear attractive and well structured to the teachers and provide logical support to the script itself. A consistent finding for teachers at both grade levels and for all three questionnaires is the proportion of teachers who used the available exercises in addition to similar exercises available from other sources. Eighty-five percent of the teachers reported such use, indicating that TVRP classes received additional stress in those skills requiring knowledge of word structure and meaning and, to a lesser extent, in some more complex language skills. However, teachers indicated that several of the exercise types were rather unique by checking "No other exercise like this." More than 20% of the responding intermediate and junior high teachers indicated that there were no comparable exercises available for the TVRP analogies, script phrase comprehension, word search, and crossword puzzles. In addition, junior high teachers indicated that figurative language, drawing conclusions, and sequencing events exercises were unique with more than 20% of these teachers checking "No other exercise like this."

Teachers were also asked to check those exercise types for which there were too few items. Only 2% of the responding teachers did so for most of the exercise types. There were some departures from this pattern, however. For the Happy Days script, 4% of the teachers at both grade levels indicated that

there were too few analogy items and figurative language items. Six percent of the junior high teachers indicated a need for more drawing conclusion items, while 7% of these teachers wanted more sequencing items.

The number of teachers who indicated the need for additional items is so small that differences among sites would be meaningless. However, sufficient data exist to discuss site differences in exercises used. Inspection of Tables 4, 5, and 6 in Appendix D reveals that Dallas teachers reported exercise use consistently below average for all exercise types and for all three programs. Only six of 102 ratings were above the average figure for all sites. Pinellas County teachers reported very low use of classification and index exercises in comparison to other types. Although these exercises were not used heavily by any site, the size of the difference for Pinellas teachers is larger than for any other site.

Content Analysis of Teacher Comments

All comments made by teachers to open-ended questions on each of the three questionnaires were listed and tallies were made of the number of times each comment appeared. These tallies are reported for all sites combined. Separate analyses for each site are contained in Appendix C.

Program questionnaire 1--Spiderman. This script was by far the most unpopular with both students and teachers. The PQ-1 was completed by teachers before the later scripts arrived, so the responses should reflect the opinion about the script alone. Questionnaires received late were not significantly different from others so they were analyzed with the others. Results are tabulated in Table 41.

Table 41
Frequency Distribution of Teacher Comments
Spiderman Script

| Comment | Number of Responses |
|---|---|
| 1. Vocabulary too difficult | 43 |
| 2. Material arrived late | 25 |
| 3. Script/exercises errors | 21 |
| 4. Narration too long | 17 |
| 5. Main idea not apparent | 16 |
| 6. Limited class time | 12 |
| 7. Too few scripts | 11 |
| 8. Exercises too difficult | 8 |
| 9. Poor choice of program | 4 |
| 10. Poor scene descriptions | 4 |
| 11. Didn't like script | 4 |
| 12. Script too long | 2 |
| 13. Boys preferred script | 1 |
| 14. More character development needed | 1 |
| 15. More teacher preparation desired | 1 |
| 16. Character does not match comic | 1 |
| Positive Comments | |
| 1. Received with enthusiasm | 3 |
| No Problems | 203 |

n=314

Only negative comments were solicited; therefore, we could conclude that those 203 teachers who gave no response felt favorably about all aspects of the program.

It was difficult to interpret many of the comments. For example, several teachers responded that the format could be improved. This could refer to the format of the script or the format of the exercises, because both of these were mentioned specifically by some teachers. One teacher suggested more teacher preparation and expanded upon her comment saying that she would find a lesson plan useful before she presented the lesson.

Comments #1 and #10 are similar in that the reason for the difficulty is vocabulary, but different in that #10 refers to the exercises themselves aside from the vocabulary.

Critical comments heard most often from teachers and site contact persons with whom we communicated were the following.

1. The Spiderman script was a poor one; the plot was dull, narration was too long and the language and violence were not appropriate. There were two teachers who said that the children were not allowed to watch the program at home because of the content.

2. Teachers found that they lacked sufficient time to present the script and complete the exercises. Vacations created scheduling problems and the fact that all of the scripts arrived late caused further problems.

Since Spiderman was the first script evaluated and the teachers were learning how to use such an instrument for the first time, the lessons, exercises, etc., were not as likely to go as well as for later scripts. In general, however, this particular script was not well received. This was true for both the teachers and the students.

Program questionnaire 2--Happy Days. Table 42 describes a preliminary analysis of teacher responses to Question 6, "Did you have any problems with the material? If so, please describe."

Table 42
Frequency Distribution of Teacher Comments
Happy Days Script

| Comment | Number of Responses |
|---|---|
| 1. Vocabulary too difficult | 21 |
| 2. Limited class time | 20 |
| 3. Materials late | 16 |
| 4. Too few scripts | 12 |
| 5. Script/exercises errors | 7 |
| 6. Did not participate | 6 |
| 7. No materials received (same school) | 5 |
| 8. Script too long | 3 |
| 9. Narration too long | 2 |
| 10. Teacher preparation plans desired | 2 |
| 11. Not enough dialogue | 1 |
| 12. Disliked script changes from program | 1 |
| **Positive Comments** | |
| 1. Liked the 30 minute script | 13 |
| 2. Great script | 25 |
| **No Problems** | 345 |

n=464

Overall, there were many more "no problem" responses than with the PQ-1 questionnaire. It should be recognized, however, that by this time the teachers may have worked out many of the problems that they encountered when first introducing and teaching the script lessons. There is, however, strong evidence that this script was better received by both teachers and students. There were many comments that the teachers preferred the thirty minute script of the PQ-2 to the sixty minute script of the PQ-1. It was mentioned by many teachers that this program was popular with the children and held their attention.

Comment #2 and Comment #3 are related in that late arrival of the materials meant there was limited class time in which to do the lessons. Teachers complained about the late arrival of both PQ-1 and PQ-2 and felt frustrated that this was not corrected. Snow days in both Chicago and Minneapolis meant that school time was already limited and compounded scheduling problems. Several did not present the lessons at all because by the time the materials arrived, the program was about to be aired.

Some teachers found it frustrating when they received too few scripts, particularly when they had requested that more be sent after the PQ-1 scripts were not sufficient in numbers.

Program questionnaire 3--Mork and Mindy. Table 43 describes teacher responses to Question 6, "Did you have any problems with the materials? If so, please describe."

In general, this third script was well received. There were several observations that the humor was too advanced and that the language was not for children. Again, the thirty minute script was much preferred and the teachers felt that the children were highly motivated because it was a Mork and Mindy program. There were infrequent complaints about the humor and values, but generally teachers and children liked this script.

Table 43
Frequency Distribution of Teacher Comments
Mork and Mindy Script

| Comment | Number of Responses |
|---|---|
| 1. Script/exercises errors | 28 |
| 2. Vocabulary too difficult | 36 |
| 3. Scheduling problems | 11 |
| 4. Materials late | 11 |
| 5. Exercises too difficult | 8 |
| 6. Too few scripts | 8 |
| 7. Poor program | 2 |
| 8. Script too long | 2 |
| 9. Didn't approve of script values | 2 |
| **Positive Comments** | |
| 1. Preferred the 30 minute show | 1 |
| **No Problems** | 280 |

n=383

PQ-2 and PQ-3 responses to "no problems" were 74% and 73% respectively, so there is a definite upward trend when compared with the 43% for the PQ-1, which possibly is due to both teacher familiarity with the materials and the poor quality of the Spiderman script. The PQ-2 (Happy Days) and PQ-3 (Mork and Mindy) scripts were received with much enthusiasm by both teachers and children whereas the PQ-1 (Spiderman) was not as well received. For this reason, teachers felt more positive about the script and negative comments were minimal.

There was a preference for the thiry minute script. Lack of teaching time was a major problem, even for the thirty minute scripts, but it was apparent that teachers found the thity minute script to be more manageable than the one which was sixty minutes.

Indications are that a large majority of the teachers would use the materials next year if they were available. Even those teachers who were quite specific in their negative comments wanted to have the opportunity to use them again.

Too few scripts and the fact that materials often arrived late resulted in frustration throughout the year. Since time was a factor due to unexpected events such as snow days and school commitments, it is important that the scripts arrive on schedule.

Another common complaint was the lack of proofreading and exercise errors. In citing exercise errors, the teachers referred specifically to misspelled words and incorrect answers.

There were comments throughout the three questionnaires that the reading level was too advanced for the students. We noted that many of these comments came from teachers who taught grades 3 and 4. When it occurred at a higher

grade, the teacher sometimes remarked that she had a lower reading ability class than the average for that grade.

Of the 383 PQ-3's returned by teachers, 360 (94%) of the questionnaires contained answers to the question, "Would you use this program again next year?" Teachers who answered "yes" (304 or 84%) far outnumbered those who answered "no" (44 or 12%) or "maybe" (12 or 3%). Some teachers in Pinellas County indicated that the affirmative answer was conditional upon readability level and number of scripts. These teachers prefer that the reading level remain the same and that fewer scripts be provided. Time is apparently an issue again. Listed below are the percentages of teachers from each site who wish to use the TVRP materials again.

| | |
|---|---|
| Minneapolis | - 81% |
| Chicago | - 90% |
| Mount Vernon | - 86% |
| Pinellas County | - 91% |
| Dallas | - 83% |
| Bullhead City | - 25% |

It should be recognized that those teachers who were not interested in the program did not volunteer to participate. Also, several teachers dropped out of the program after it started for a variety of reasons, and by the time the PQ-3 was completed, the teachers who were responding to the question were teachers who felt favorable about the program and found it compatible with their regular instruction.

## Discussion

The principle findings from the Program Questionnaire data analysis are as follows.

1. A large proportion of the responding teachers used the scripts as reading materials with their classes. This percentage increased as the year progressed and jumped dramatically with script appeal. The script material is clearly considered an appropriate vehicle for reading instruction by the teachers sampled.

2. A high percentage of teachers saw the materials as highly appealing to most or all of their students.

3. The skill exercises which received the heaviest use were the least complex of those available. Skills which received the most practice were identifying word meaning and knowledge of word structure.

4. The use of analogy exercises increased more than any other type of exercise as the year progressed. Analogy exercises were most frequently cited as needing more items and as being unique to reading instruction.

5. The general response to the program on the three questionnaires was least positive in the Southern sites, both urban and suburban. However, 84% of these teachers wish to continue using the program, indicating a relatively strong appeal for this geographic area. From 81% to 91% of the responding teachers in every site except Bullhead City wish to continue using the program. Only one of four responding teachers wished to continue.

6. The most frequently cited objections to the program materials are difficult vocabulary (primarily fourth grade and below), late arrival of the materials, and limited class time. Many teachers prefer half-hour scripts and fewer than nine scripts per year.

The findings described above are consistent with those of the first year's evaluation. The questionnaire return rate is considerably higher than that of the first evaluation which encourages confidence in the stability of the results. There are four findings which deserve particular attention from Capital Cities Communications, Inc. Less appealing scripts were used much less than appealing scripts; use of the materials increased over the year; analogy exercise use increased dramatically over the year, although other cognitively complex skill exercises were less utilized; a common complaint was lack of sufficient time to use the materials properly.

Two steps can be taken to improve the value of the program to the teachers which should result in increased utilization of the materials and enhance instructional effects. First, the review process for script selection should include input from both intermediate and junior high classroom teachers. It may be possible, depending on the script offerings from the three networks in

any given month, to avoid selection of a script such as the Spiderman script, which has limited suitability for classroom use. Second, workshops should be provided which would acquaint the teachers with the instructional materials and familiarize them with optimal utilization methods as well as show them how the materials can be integrated with their core instructional program. Most teachers rely on textbooks and teachers manuals to guide instruction plans. The TVRP is quite compatible with most existing textbook series, and many of the instructional objectives met by core materials can be met as well with TVRP materials. This type of substitution, if done independently, requires a large amount of time from the teacher. If it is provided by Capital Cities, exercise utilization should be high at the beginning of the year as well as the end, the more complex exercises should be used more extensively and complaints about insufficient time should disappear. One strategy (of many) for handling these suggestions is to establish pilot schools in selected districts which would heavily utilize the script materials and serve as a test bed for other schools in the district.

# APPENDIX A

## Program Questionnaire

SEVERAL TYPES OF EXERCISES WERE INCLUDED IN THE STUDENT WORKBOOKS. PLEASE INDICATE WHICH EXERCISES YOUR CLASS USED WITH THIS SCRIPT. PERHAPS YOU USE EXERCISES SIMILAR TO THESE WITH YOUR OTHER READING MATERIALS. FOR THOSE EXERCISES USED FROM THE STUDENT WORKBOOK, INDICATE WHETHER THEY WERE USED "IN ADDITION TO" OR "IN PLACE OF" SIMILAR EXERCISES FROM OTHER READING MATERIAL. FINALLY, INDICATE ANY EXERCISES WHICH DID NOT CONTAIN ENOUGH ITEMS.

| | DID USE | DIDN'T USE | IN ADDITION SIMILAR EXERCISES | IN PLACE OF SIMILAR EXERCISES | NO OTHER EXERCISES LIKE THIS | CHECK (✓) IF TOO FEW ITEMS |
|---|---|---|---|---|---|---|
| 1. Synonyms? | | | | | | |
| 2. Antonyms? | | | | | | |
| 3. Prefixes and/or suffixes? | | | | | | |
| 4. Analogies? | | | | | | |
| 5. Multiple meanings for words? | | | | | | |
| 6. Understanding figurative language? | | | | | | |
| 7. Defining words in context? | | | | | | |
| 8. Comprehending script phrases? | | | | | | |
| 9. Finding facts and details? | | | | | | |
| 10. Separating fact from opinion? | | | | | | |
| 11. Drawing inferences? | | | | | | |
| 12. Drawing conclusions? | | | | | | |
| 13. Use of index? | | | | | | |
| 14. Classification of objects/events? | | | | | | |
| 15. Sequencing events? | | | | | | |
| 16. Word search? | | | | | | |
| 17. Crossword puzzle? | | | | | | |

Please list the names of any exercises that your students had particular difficulty doing:

PPOGRAM QUESTIONNAIRE: SPIDERMAN - "The Con Caper"

THE FOLLOWING QUESTIONS CONCERN THE SCRIPT MATERIALS FOR THE PROGRAM LISTED ABOVE. ANSWER EACH QUESTION BY PLACING A CHECK (✓) IN THE BOX WHICH CORRESPONDS TO YOUR ANSWER. THANK YOU.

| | | | | | |
|---|---|---|---|---|---|
| 1. Did your students read the script in class? | YES, ALL OF THE SCRIPT ☐ | MOST OF THE SCRIPT ☐ | SOME OF THE SCRIPT ☐ | VERY LITTLE OF THE SCRIPT ☐ | NO, NONE OF THE SCRIPT ☐ |
| 2. Is the reading difficulty level of the script appropriate for your class? | TOO HARD FOR EVERY-ONE ☐ | TOO HARD FOR MOST ☐ | ABOUT RIGHT FOR MOST ☐ | TOO EASY FOR MOST ☐ | TOO EASY FOR EVERY-ONE ☐ |
| 3. Is the content of the script appropriate for the interests of the students in the class? | TOO ADVANCED FOR EVERY-ONE ☐ | TOO ADVANCED FOR MOST ☐ | ABOUT RIGHT FOR MOST ☐ | TOO JUVENILE FOR MOST ☐ | TOO JUVENILE FOR EVERY-ONE ☐ |
| 4. Did your students like the television program selected? | ALL OF THEM DID ☐ | MOST OF THEM DID ☐ | SOME OF THEM DID ☐ | FEW OF THEM DID ☐ | NONE OF THEM DID ☐ |

5. Did you spend any time discussing the script with your class? (Do not include time spent on the exercises) _____ minutes.

6. Did you have any problems with the materials? If so, please describe.

PLEASE TURN THIS SHEET OVER AND COMPLETE THE REVERSE SIDE.

APPENDIX B

Percentage of Teachers Responding to Items 1-4
by Site and Grade Level for
PQ-1, PQ-2, and PQ-3
Tables 1-3

Table 1
Complete Summary Tables
Program Questionnaire-1 Items 1-4

Item 1: Percentage of teachers using most or all of the script

| Grade | Minn | Chi | MV | Pin | Dal | BC | All |
|---|---|---|---|---|---|---|---|
| | | | Site | | | | |
| Graded | - | 63 | - | - | - | - | - |
| 4-6 | _ | - | 64 | 67 | 61 | - | 64 |
| 7-11 | - | - | * | * | 44 | * | 44 |

Item 2: Percentage responding difficulty level about right

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 57 | - | - | - | - | - |
| 4-6 | - | - | 54 | 43 | 59 | - | 52 |
| 7-11 | - | - | - | - | 67 | - | 67 |

Item 3: Percent responding content appropriate

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 73 | - | - | - | - | 73 |
| 4-6 | - | - | 54 | 55 | 75 | - | 61 |
| 7-11 | - | - | - | - | 72 | - | - |

Item 4: Percentage responding most or all like script

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 61 | - | - | - | - | 61 |
| 4-6 | - | - | 70 | 72 | 78 | - | 73 |
| 7-11 | - | - | - | - | 66 | - | 66 |

Table 2
Complete Summary Tables
Program Questionnaire-2 Items 1-4

Item 1: Percentage of teachers using most or all of script

| Grade | Site Minn | Chi | MV | Pin | Dal | BC | All |
|---|---|---|---|---|---|---|---|
| Unknown | - | 78 | _ | _ | _ | _ | 78 |
| 4-6 | 81 | 80 | 81 | 95 | 52 | - | 74 |
| 7-11 | 100 | 79 | 100 | 75 | 60 | 80 | 75 |

Item 2: Percentage reporting reading level about right

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 85 | - | - | - | - | 85 |
| 4-6 | 91 | 83 | 75 | 86 | 68 | - | 77 |
| 7-11 | 100 | 91 | 100 | 75 | 78 | 40 | 85 |

Item 3: Percentage responding content appropiate

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 98 | - | - | - | - | 98 |
| 4-6 | 93 | 87 | 88 | 100 | 88 | - | 91 |
| 7-11 | 100 | 100 | 100 | 75 | 94 | 100 | 97 |

Item 4: Percentage responding most or all liked script

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 97 | - | - | - | - | 97 |
| 4-6 | 95 | 93 | 88 | 100 | 95 | - | 94 |
| 7-11 | 93 | 83 | 100 | 100 | 97 | 88 | 88 |

Table 3
Complete Summary Tables
Program Questionnaire-3 Items 1-4

Items 1: Percentage of teachers using most or all of the script

| Grade | Minn | Chi | MV | Pinn | Dal | BC | All |
|---|---|---|---|---|---|---|---|
| Unknown | - | 84 | - | - | - | - | 84 |
| 4-6 | 92 | 89 | 93 | 91 | 72 | - | 81 |
| 7-11 | 100 | 75 | 100 | 50 | 87 | 60 | 94 |

Item 2: Percentage of teachers reporting reading level about right

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 89 | - | - | - | - | 89 |
| 4-6 | 85 | 89 | 92 | 86 | 68 | - | 76 |
| 7-11 | 100 | 95 | 100 | 100 | 79 | - | 88 |

Item 3: Percentage responding content appropriate

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 91 | - | - | - | - | 91 |
| 4-6 | 98 | 94 | 100 | 100 | 89 | - | 93 |
| 7-11 | 92 | 100 | 100 | 50 | 92 | 80 | 92 |

Item 4: Percentage responding most or all liked script

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Unknown | - | 94 | - | - | - | - | 94 |
| 4-6 | 95 | 100 | 95 | 100 | 96 | - | 96 |
| 7-11 | 92 | 95 | 100 | 100 | 94 | 100 | 95 |

# APPENDIX C

## Summary of Content Analysis for Each Site

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 1 SPIDERMAN

DALLAS

Total number of questionnaires received - 177/198 or 89%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 22 or 12% |
| 2. Materials arrived late | 21 or 12% |
| 3. Limited class time | 9 or 5% |
| 4. Too much narration | 8 or 5% |
| 5. Didn't present the lesson | 7 or 4% |
| 6. Script difficult to understand | 6 or 3% |
| 7. Exercise errors | 5 or 3% |
| 8. Sat. night not a good night | 5 or 3% |
| 9. Exercises too difficult | 4 or 2% |
| 10. Script errors | 2 or 1% |
| 11. Script too long | 2 or 1% |
| 12. Didn't like the script i.e. children | 1 or 1% |
| 13. Too few scripts | 1 or 1% |
| 14. No teacher's guide | 1 or 1% |

POSITIVE COMMENTS

Children were enthusiastic about the script - 1 or 1%

Great script - 1 or 1%

NO PROBLEMS 93 or 53%

GENERAL COMMENTS

#8 comment - 5 teachers indicated that Saturday or any weekend night was not desirable for a viewing time because of family commitments, time lapse between viewing and class discussion, etc.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 1 SPIDERMAN

CHICAGO

Total number of questionnaires received - 88/202 or 44%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Too few scripts | 10 or 26% |
| 2. Vocabulary too difficult | 9 or 24% |
| 3. Found script boring | 6 or 16% |
| 4. Too much narration | 5 or 13% |
| 5. Main idea not apparent | 4 or 11% |
| 6. Script errors | 3 or 8% |
| 7. Materials arrived late | 3 or 8% |
| 8. Poor script directions | 3 or 8% |
| 9. Exercise errors | 3 or 8% |
| 10. Not appropriate for children | 2 or 5% |
| 11. Exercises too difficult | 2 or 5% |
| 12. Limited class time | 2 or 5% |
| 13. Spiderman not preferred | 1 or 3% |
| 14. Boys preferred script | 1 or 3% |
| 15. Weren't allowed to view it | 1 or 3% |
| 16. Character development needed | 1 or 3% |

POSITIVE COMMENTS

Children enjoyed it - 1 or 3%

NO PROBLEMS 93 or 53%

GENERAL COMMENTS

One teacher felt that the content of the program was not appropriate for children so chose not to present the lesson.

#13 indicated that the children felt that the character, Spiderman, was not one of their favorites.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 1 - SPIDERMAN

MT. VERNON

Total number of questionnaires received - 16/18 or 89%

| | COMMENT | NUMBER OF RESPONSES |
|---|---|---|
| 1. | Exercise errors | 2 or 13% |
| 2. | Complicated plot | 2 or 13% |
| 3. | Vocabulary too difficult | 2 or 13% |
| 4. | Limited time | 2 or 13% |
| 5. | Material arrived late | 1 or 6% |
| 6. | Too much narration | 1 or 6% |
| 7. | Lacked educational value | 1 or 6% |
| 8. | More teacher preparation desired | 1 or 6% |
| 9. | Children not enthused | 1 or 6% |
| 10. | Camera/scene changes complicated | 1 or 6% |

POSITIVE COMMENTS - none

NO PROBLEMS 4 or 25%

GENERAL COMMENTS

The teacher that felt that the program lacked educational value did not present the lesson.

One teacher indicated that there was a need for more teacher preparation for the Television Reading Program - a workshop, etc. where the program would be explained in detail before the teachers began to teach it.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 1 - SPIDERMAN

PINELLAS COUNTY

Total number of questionnaires received - 27/31 or 87%

| | COMMENT | NUMBER OF RESPONSES |
|---|---|---|
| 1. | Vocabulary difficulty | 10 or 37% |
| 2. | Too much narration | 3 or 11% |
| 3. | Exercise errors | 3 or 11% |
| 4. | Script errors | 3 or 11% |
| 5. | Excercises too difficult | 2 or 7% |
| 6. | Plot difficult to follow | 2 or 7% |
| 7. | Limited time | 2 or 7% |
| 8. | Boring script | 1 or 4% |
| 9. | Teacher ill so did not present | 1 or 4% |

POSITIVE COMMENTS - none

NO PROBLEMS 11 or 41%

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 1 - SPIDERMAN

BULLHEAD CITY

Total number of questionnaires received - 5/6 or 83%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Action hard to follow | 2 or 33% |
| 2. Spiderman not like comic character | 1 or 17% |
| POSITIVE COMMENTS - none | |
| NO PROBLEMS | 2 or 33% |

GENERAL COMMENTS -

#2 refers to the fact that the students were disappointed that the character was not like the Spiderman in the comic books.

## VOCABULARY DIFFICULTY RESPONSES BY SITE AND BY GRADE LEVEL

It is assumed by the evaluators that the two comments, "vocabulary too difficult" and "material too hard for the children in my class" indicate the same thing. The following gives a site by site, grade level breakdown of these responses:

| | SITE | NUMBER OF RESPONSES | GRADE |
|---|---|---|---|
| 1. | Dallas | 24/177 or 14% | 1st - 1 |
| | Of the 11 classes of 4th grades, 2 were low in ability. Two classes of the 5 fifth grades were low. | | 2nd - 1<br>3rd - 2<br>4th - 11<br>5th - 5<br>7th - 1<br>9th - 3 |
| 2. | BULLHEAD CITY | None | |
| 3. | PINELLAS COUNTY | 9/27 or 33% | 4th - 4<br>5th - 2<br>6th - 2<br>8th - 1 |
| 4. | MT. VERNON | 2/16 or 13% | 4th - 2 |
| 5. | CHICAGO | 15/88 or 17% | |

Chicago does not have grade levels in their school system. Those teachers who indicated that the material was too hard for their students usually did not give an indication of the grade level of the class. Those responses that did indicate grade level are the following:

One teacher said that her class was reading on a 2nd-4th grade level. Another teacher stated that the children in her class were 6th and 7th graders reading on a 3rd-4th grade level.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 HAPPY DAYS

MINNEAPOLIS

Total number of questionnaires received - 70/87 or 80%

| | COMMENT | NUMBER OF RESPONSES |
|---|---|---|
| 1. | Limited class time | 6 or 9% |
| 2. | Vocabulary too difficult | 4 or 6% |
| 3. | Exercise errors | 3 or 4% |
| 4. | Poor script directions | 3 or 4% |
| 5. | Too few scripts | 2 or 3% |
| 6. | Students not interested | 1 or 1% |
| 7. | Materials arrived late | 1 or 1% |
| 8. | Not enough dialogue | 1 or 1% |
| 9. | Script too long | 1 or 1% |
| 10. | Explicit teacher directions desired | 1 or 1% |
| 11. | Script errors | 1 or 1% |
| 12. | Lesson plans desired | 1 or 1% |
| 13. | Print too small | 1 or 1% |
| 14. | Exercises too difficult | 1 or 1% |
| | NO PROBLEMS | 39 or 56% |

POSITIVE COMMENTS

| | | |
|---|---|---|
| 1. | Prefer 30 minute script | 6 or 9% |
| 2. | Great script | 3 or 4% |
| 3. | Short and easy to read | 2 or 3% |
| 4. | Best script to date | 2 or 3% |
| 5. | Students liked it b tter than others | 2 or 3% |

GENERAL COMM NTS

#4 under Positive Comments is a teacher's remark while #5 refers to the students' opinions.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 HAPPY DAYS

CHICAGO

Total number of questionnaires received - 157/202 or 78%

| | COMMENT | NUMBER OF RESPONSES |
|---|---|---|
| 1. | Limited class time | 5 or 3% |
| 2. | Materials arrived late | 3 or 2% |
| 3. | Vocabulary too difficult | 2 or 1% |
| 4. | Exercises too difficult | 1 or 1% |
| 5. | Students bored with Happy Days | 1 or 1% |
| 6. | Script exercises not necessary | 1 or 1% |
| 7. | More teacher directions desired | 1 or 1% |
| 8. | Inappropriate content | 1 or 1% |
| 9. | Exercise errors | 1 or 1% |
| 10. | Changes from script to telecast disliked | 1 or 1% |
| 11. | Spelling errors | 1 or 1% |
| 12. | Material too difficult i.e. word usage, theme of plot, etc. | 1 or 1% |
| 13. | Too few scripts | 1 or 1% |

POSITIVE COMMENTS

| | | |
|---|---|---|
| 1. | Preferred 30 minute script | 1 or 1% |
| 2. | Easiest script to date | 1 or 1% |
| 3. | Most enjoyable script to date | 1 or 1% |

NO PROBLEMS 146 or 93%

GENERAL COMMENTS

In Comment #6, teacher stated that she felt that the script was enough of an educational experience in itself and the exercises were not necessary.

#5 - students were bored with HAPPY DAYS as a show, not necessarily with this particular script.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 - HAPPY DAYS

MT. VERNON

Total number of questionnaires received - 18/18 or 100%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 2 or 11% |
| 2. Exercise errors | 1 or 6% |
| 3. Materials arrived late | 1 or 6% |
| POSITIVE COMMENTS | |
| 1. Great script | 1 or 6% |
| 2. Much better than SPIDERMAN | 1 or 6% |
| NO PROBLEMS | 14 or 78% |

GENERAL COMMENTS

None

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 - HAPPY DAYS

PINELLAS COUNTY

Total number of questionnaires received - 27/31 or 87%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 1 or 3% |
| 2. Material arrived late | 1 or 3% |
| 3. Not enough dialogue | 1 or 3% |
| 4. Inappropriate content | 1 or 3% |

POSITIVE COMMENTS

| | |
|---|---|
| 1. Prefer 30 minute script | 2 or 6% |
| 2. Received scripts on time | 1 or 3% |
| 3. Vocabulary development exercises good | 1 or 3% |
| 4. Students loved the script | 4 or 13% |

GENERAL COMMENTS

# 4 Inappropriate content refers to the language used in the program.

NO PROBLEMS 20 or 65%

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 HAPPY DAYS

DALLAS

Total number of questionnaires received - 186/198 or 94%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 12 or 6% |
| 2. Materials arrived late | 10 or 5% |
| 3. Too few scripts | 9 or 5% |
| 4. Limited class time | 8 or 4% |
| 5. Didn't use script | 6 or 3% |
| 6. Script never arrived | 5 or 3% |
| 7. Exercises too difficult | 2 or 1% |
| 8. Script too long | 2 or 1% |
| 9. Script difficult to understand | 2 or 1% |
| 10. Group exercises according to ability of the class | 1 or 1% |

| POSITIVE COMMENTS | |
|---|---|
| 1. Enjoyed script | 12 or 6% |
| 2. Good length | 4 or 8% |
| 3. Good choice of program | 3 or 2% |

| | |
|---|---|
| NO PROBLEMS | 122 or 66% |

GENERAL COMMENTS

#10 - One teacher felt that there should be several levels of exercises according to ability of a given class i.e. exercises for high, average, and low level groups. She stated that the exercises were too difficult for many of her children.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 2 HAPPY DAYS

BULLHEAD CITY

Total number of questionnaires received - 6/6 or 100%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Exercise errors | 1 or 17% |
| 2. Limited class time | 1 or 17% |
| NO PROBLEMS | 4 or 67% |

GENERAL COMMENTS -

None

VOCABULARY DIFFICULTY RESPONSES BY SITE AND BY GRADE LEVEL

It is assumed by the evaluators that the two comments, "vocabulary too difficult" and "material too hard for the children in my class" indicate the same thing. The following gives a site by site, grade level breakdown of these responses:

| SITE | NUMBER OF RESPONSES | GRADE |
|---|---|---|
| 1. Minneapolis | 4/70 or 6% | 3rd - 1 |
| | | 3-4 - 1 |
| | | 4th - 1 |
| 2. Chicago | 2/157 or 1% | No grades |
| 3. Mt. Vernon | 2/18 or 11% | 3rd - 1 |
| | | 5th - 1 |
| 4. Pinellas County | 1/27 or 3% | 4th - 1 |
| 5. Dallas | 12/186 or 6% | 4th - 6 |
| One of the 5th grade teachers indicated that her students were reading on a second grade level. | | 5th - 2 |
| | | 6th - 2 |
| | | 8th - 2 |
| 6. Bullhead City | none | |

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 MORK AND MINDY

MINNEAPOLIS

Total number of questionnaires received - 61/87 or 70%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Exercise errors | 6 or 10% |
| 2. Script errors | 5 or 8% |
| 3. Teacher manual errors | 5 or 8% |
| 4. Vocabulary too difficult | 5 or 8% |
| 5. Limited class time | 4 or 7% |
| 6. Materials arrived late | 2 or 3% |
| 7. Exercises too difficult | 1 or 2% |
| 8. Too many programs to teach | 1 or 2% |
| NO PROBLEMS | 36 or 59% |
| POSITIVE COMMENTS | |
| Prefer the 30 minute scripts | 1 or 2% |

Question #8 - Would you like to use the materials again next year?

| | |
|---|---|
| YES | 47 or 77% |
| NO | 8 or 13% |
| MAYBE | 3 or 5% |

GENERAL COMMENTS

Comment #8 - One teacher felt that the programs were too close together and therefore difficult to teach completely. She suggested fewer per year.

Of those teachers who indicated a desire to use the materials again next year, several requested fewer programs per year.

Of those teachers who indicated they would not use the materials again next year, one said that she felt the material was inappropriate (swearing, reference to beer, sexist remarks, etc.) and another said that she would not use them again if they were 60 minute scripts.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 - MORK AND MINDY

CHICAGO

Total number of questionnaires received - 102/202 or 50%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 4 or 4% |
| 2. Material arrived late | 2 or 2% |
| 3. Script errors | 2 or 2% |
| 4. Teacher manual errors | 2 or 2% |
| 5. Materials not appropriate | 2 or 2% |
| 6. Scripts too long | 1 or 1% |
| 7. Material too advanced | 1 or 1% |
| NO PROBLEMS | 79 or 77% |
| POSITIVE COMMENTS | None |

Question #8 - Would you like to use these materials next year?

YES 81 or 79%

NO 9 or 9% - Of these 9, one teacher said that she felt the material was in poor taste.

GENERAL COMMENTS

The evaluators are skeptical of the written remarks (or lack of) of the Chicago teachers. An extremely high number wrote nothing more than "no" when asked if there were any problems or "yes" when asked if they would use materials again next year. This site was visited late in the year by Mike McAndrew and it was after this contact that the majority of PQ3 arrived. It is assumed that the questionnaires were completed with little thought.

There were 8 questionnaires that were not completed but were received with nothing more on them than teacher labels. These 8 were not part of the 102 received. (i.e. they are not figured into the above analysis.) In all 110 forms were received. Of those 110, 8 or 7% were not completed.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 MORK AND MINDY

MT. VERNON

Total number of questionnaires received - 16/18 or 89%

| | COMMENT | NUMBER OF RESPONSES |
|---|---|---|
| 1. | Exercise errors | 4 or 25% |
| 2. | Vocabulary too difficult | 2 or 13% |
| 3. | Not enough character parts | 1 or 6% |
| 4. | Would like fewer scripts per year | 1 or 6% |
| | NO PROBLEMS | 7 or 44% |
| | POSITIVE COMMENTS | None |

Question #8 - Would you like to use the materials next year?

YES 13 or 81% - Of these 13, one teacher said she would use the materials again if they arrived on time and if the reading level was more for 5th graders.

NO 2 or 13%

GENERAL COMMENTS

None

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 MORK AND MINDY

PINELLAS COUNTY

Total number of questionnaires received - 22/31 or 71%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. The program had been aired before materials were received | 2 or 9% |
| 2. Vocabulary too difficult | 1 or 5% |
| 3. Teacher manual errors | 1 or 5% |
| 4. Exercise errors | 1 or 5% |
| 5. Limited class time | 1 or 5% |
| NO PROBLEMS | 16 or 73% |
| POSITIVE COMMENTS | None |

Question #8 - Would you like to use the materials next year?

| | |
|---|---|
| YES | 20 or 91% |
| NO | None |
| MAYBE | 2 or 9% |

General Comments

Of the 20 teachers who indicated a desire to use the materials again next year, one teacher said that it would depend upon whether or not the scripts were on time and if there were enough copies for her class. Another said that if there were fewer programs to be taught, she would consider using the materials next year.

Comment #1 - Apparently, the Mork and Mindy script was of a program that had been aired months earlier. One teacher commented that her class was disappointed to find this to be the case.

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 MORK AND MINDY

DALLAS

Total number of questionnaires received - 181/198 or 91%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Vocabulary too difficult | 24 or 13% |
| 2. Exercise errors | 9 or 5% |
| 3. Too few scripts | 8 or 4% |
| 4. Materials arrived late | 5 or 3% |
| 5. Exercises too difficult | 4 or 2% |
| 6. Limited class time | 4 or 2% |
| 7. Scripts too long | 1 or 1% |
| NO PROBLEMS | 125 or 69% |
| POSITIVE COMMENTS | None |

Question #8 - Would you use the materials again next year?

YES 143 or 79%

NO 22 or 12% - Of these 22, one teacher was moving and another was retiring.

GENERAL COMMENTS

None

CONTENT ANALYSIS BY SITE - PROGRAM QUESTIONNAIRE 3 MORK AND MINDY

BULLHEAD CITY

Total number of questionnaires received - 5/6 or 83%

| COMMENT | NUMBER OF RESPONSES |
|---|---|
| 1. Script errors | 1 or 17% |
| 2. Limited class time | 1 or 17% |
| NO PROBLEMS | 4 or 67% |
| POSITIVE COMMENTS | None |

Question #8 - Would you use the materials again next year?

| | |
|---|---|
| YES | 1 or 17% |
| NO | 3 or 50% |

GENERAL COMMENTS

Of the three teachers who indicated that they would not use the material again next year, one said that more class time was needed to use the materials, time that the teacher does not have.

The one teacher who said yes to Question #8, said that she would use the materials if the scripts were fewer in number per year.

The one teacher who indicated neither yes nor no said that she would use the materials again only for "special classes". This is interpreted to mean for classes of a higher reading level than that teacher has although the meaning is unclear.

VOCABULARY DIFFICULTY RESPONSES BY SITE AND BY GRADE LEVEL

It is assumed by the evaluators that that the two comments, "vocabulary too difficult" and "material too hard for the children in my class" indicate the same thing. The following gives a site by site, grade level breakdown of these responses:

| SITE | NUMBER OF RESPONSES | GRADE |
|---|---|---|
| 1. Minneapolis | 5/61 or 8% | 4th - 2<br>6th - 3 |
| 2. Chicago | 4/102 or 4% | 5th - 1 |
| None of the other Chicago teachers gave any indication of the grade level of their class. | | |
| 3. Mt. Vernon | 2/16 or 13% | 4th - 1<br>5th - 1 |
| 4. Pinellas | 1/22 or 5% | 4th - 1 |
| 5. Dallas | 24/181 or 13% | 2nd - 1<br>4th - 11<br>5th - 5<br>6th - 4<br>7th - 1<br>8th - 1<br>9th - 1 |
| 6. BullHead | None | |

APPENDIX D

Percentage of Teachers Reported Using Seventeen Exercises
by Site and Grade Level for PQ-1, PQ-2, and PQ-3
Tables 4-6

Table 4
Program Questionnaire-1 Analysis
Percent of Teachers Reporting
Use of Each Exercise at
Each Site

| Exercise | Intermediate Teachers n=244 | | | | | | Secondary Teachers n=77 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minn. | Chi. | MV | Pin. | Dal. | BC | Minn. | Chi. | MV | Pin. | Dal. | BC |
| 1 | Questionnaires lost in mail | Questionnaires returned seven months late | 78 | 89 | 78 | Fewer than five teachers responded | Questionnaires lost in mail | Questionnaires returned seven months late | Fewer than five teachers responded | Fewer than five teachers responded | 57 | |
| 2 | | | 67 | 83 | 75 | | | | | | 54 | |
| 3 | | | 60 | 65 | 79 | | | | | | 54 | |
| 4 | | | 75 | 80 | 53 | | | | | | 44 | |
| 5 | | | 90 | 86 | 72 | | | | | | 54 | |
| 6 | | | 70 | 90 | 60 | | | | | | 42 | |
| 7 | | | 90 | 81 | 82 | | | | | | 54 | |
| 8 | | | 90 | 79 | 71 | | | | | | 54 | |
| 9 | | | 80 | 72 | 70 | | | | | | 54 | |
| 10 | | | 67 | 75 | 59 | | | | | | 61 | |
| 11 | | | 86 | 82 | 50 | | | | | | 52 | |
| 12 | | | 83 | 81 | 64 | | | | | | 56 | |
| 13 | | | 75 | 46 | 62 | | | | | | 30 | |
| 14 | | | 60 | 53 | 42 | | | | | | 29 | |
| 15 | | | 90 | 65 | 69 | | | | | | 46 | |
| 16 | | | 80 | 95 | 86 | | | | | | 59 | |
| 17 | | | 89 | 90 | 88 | | | | | | 58 | |

Table 5
Program Questionnaire-2 Analysis
Percent of Teachers Reporting
Use of Each Exercise at
Each Site

| | Intermediate Teachers n=244 | | | | | | Ungraded | Secondary Teachers n=77 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Exercise | Minn. | Chi. | MV | Pin. | Dal. | BC* | ALL | n=85 | Minn. | Chi. | MV | Pin. | Dal. | BC | ALL |
| 1 | 94 | 85 | 100 | 82 | 87 | | 88 | 85 | 100 | 91 | 100 | 100 | 78 | 75 | 88 |
| 2 | 94 | 85 | 100 | 82 | 86 | | 88 | 84 | 92 | 91 | 100 | 100 | 68 | 75 | 85 |
| 3 | 83 | 70 | 90 | 50 | 84 | | 80 | 75 | 67 | 84 | 100 | 0 | 72 | 75 | 74 |
| 4 | 68 | 83 | 71 | 55 | 54 | | 62 | 82 | 70 | 84 | 100 | 33 | 79 | 25 | 75 |
| 5 | 90 | 89 | 92 | 96 | 78 | | 84 | 79 | 92 | 97 | 100 | 100 | 91 | 50 | 92 |
| 6 | 94 | 92 | 92 | 95 | 74 | | 83 | 80 | 82 | 94 | 100 | 67 | 83 | 75 | 87 |
| 7 | 94 | 92 | 100 | 100 | 88 | | 91 | 91 | 100 | 100 | 100 | 100 | 96 | 80 | 97 |
| 8 | 94 | 93 | 100 | 94 | 76 | | 85 | 83 | 92 | 91 | 100 | 67 | 80 | 80 | 87 |
| 9 | 86 | 83 | 91 | 88 | 69 | | 77 | 81 | 83 | 87 | 0 | 33 | 80 | 75 | 80 |
| 10 | 79 | 78 | 60 | 56 | 57 | | 65 | 78 | 64 | 87 | 100 | 50 | 63 | 60 | 73 |
| 11 | 77 | 91 | 88 | 64 | 56 | | 67 | 79 | 82 | 90 | 100 | 75 | 65 | 25 | 78 |
| 12 | 81 | 91 | 86 | 67 | 64 | | 71 | 81 | 73 | 97 | 100 | 50 | 79 | 80 | 86 |
| 13 | 61 | 52 | 33 | 43 | 59 | | 57 | 46 | 56 | 69 | 0 | 0 | 69 | 50 | 61 |
| 14 | 66 | 58 | 67 | 67 | 47 | | 55 | 57 | 100 | 73 | 0 | 0 | 55 | 50 | 68 |
| 15 | 83 | 92 | 91 | 90 | 77 | | 82 | 85 | 85 | 88 | 100 | 75 | 85 | 75 | 85 |
| 16 | 89 | 82 | 91 | 94 | 85 | | 87 | 93 | 83 | 94 | 0 | 100 | 90 | 60 | 88 |
| 17 | 86 | 84 | 92 | 91 | 80 | | 86 | 93 | 83 | 91 | 0 | 67 | 86 | 75 | 85 |

*No Intermediate Classes Participating

Table 6
Program Questionnaire-3 Analysis
Percent of Teachers Reporting
Use of Each Exercise at
Each Site

| Exercise | Intermediate Teachers n=244 | | | | | | | Ungraded n=54 | Secondary Teachers n=77 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Minn. | Chi. | MV | Pin. | Dal. | BC* | ALL | | Minn. | Chi. | MV | Pin. | Dal. | BC | ALL |
| 1 | 95 | 94 | 100 | 91 | 91 | | 93 | 84 | 75 | 83 | 100 | 50 | 82 | 100 | 82 |
| 2 | 95 | 94 | 100 | 91 | 88 | | 91 | 84 | 83 | 82 | 100 | 50 | 75 | 100 | 80 |
| 3 | 82 | 82 | 100 | 85 | 83 | | 84 | 63 | 82 | 59 | 100 | 50 | 72 | 60 | 70 |
| 4 | 90 | 88 | 91 | 81 | 71 | | 79 | 88 | 73 | 90 | 100 | 100 | 69 | 80 | 78 |
| 5 | 92 | 88 | 89 | 80 | 77 | | 82 | 71 | 83 | 83 | 50 | 50 | 77 | 100 | 80 |
| 6 | 90 | 94 | 80 | 89 | 78 | | 83 | 79 | 73 | 100 | 50 | 50 | 74 | 60 | 79 |
| 7 | 95 | 94 | 85 | 95 | 89 | | 91 | 92 | 83 | 100 | 100 | 100 | 84 | 100 | 90 |
| 8 | 90 | 88 | 92 | 90 | 81 | | 85 | 92 | 82 | 100 | 100 | 50 | 73 | 80 | 83 |
| 9 | 87 | 75 | 82 | 71 | 76 | | 78 | 85 | 82 | 90 | 50 | 50 | 70 | 80 | 77 |
| 10 | 71 | 75 | 63 | 62 | 68 | | 69 | 84 | 70 | 90 | 50 | 50 | 56 | 100 | 71 |
| 11 | 68 | 94 | 86 | 79 | 65 | | 70 | 85 | 80 | 74 | 100 | 0 | 67 | 60 | 77 |
| 12 | 78 | 88 | 75 | 79 | 71 | | 75 | 87 | 64 | 90 | 100 | 0 | 59 | 100 | 71 |
| 13 | 63 | 64 | 43 | 54 | 67 | | 64 | 37 | 40 | 59 | 50 | 50 | 39 | 60 | 43 |
| 14 | 61 | 57 | 43 | 54 | 61 | | 59 | 51 | 70 | 56 | 50 | 0 | 36 | 40 | 47 |
| 15 | 69 | 93 | 86 | 58 | 72 | | 73 | 88 | 82 | 83 | 50 | 0 | 63 | 80 | 71 |
| 16 | 88 | 88 | 100 | 91 | 87 | | 89 | 92 | 82 | 79 | 100 | 50 | 67 | 80 | 74 |
| 17 | 85 | 79 | 78 | 81 | 75 | | 78 | 94 | 83 | 90 | 50 | 0 | 55 | 80 | 70 |

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*No Intermediate Classes Participating

# Chapter VI

## Summary

Data gathered to evaluate the Television Reading Program serve several needs. Participating classes and the instructional materials are described on a number of educationally relevant dimensions including demographic and instructional context variables and measures of readability. Test scores, questionnaire responses and observation data define the effects of TVRP use on reading achievement and classroom behavior. Strengths and weaknesses in the program have been identified through profiles of exercise use and analysis of teacher comments. Information is thus provided on nearly every aspect of the materials which might be examined by educators making a judgment about the value of the Television Reading Program.

The salient findings from this research are described below. The importance of these results will differ for Capital Cities and the school districts who might consider adopting this program. Therefore, the discussion will include specifications of the areas which would benefit from additional research and development activities by Capital Cities and will also list instructional outcomes which the potential consumer can expect based on the evaluation data.

## Evaluation Results

Four aspects of program use were examined in this evaluation. The data collection was designed to provide answers to the following questions.

1. What are the characteristics of the classes using the TVRP materials and of the materials themselves?
2. How does the TVRP affect performance on tests of reading skills?
3. Does the TVRP affect instruction in any way which is observable and related to reading achievement?

4. Are the materials useful to the teachers and do the teachers and students like them?

In answering each of these questions, information was often gathered from more than one source in an attempt to provide both convergence and replication.

Characteristics of the Sample Classes and Program Materials

The interpretation of evaluation results is always constrained by characteristics of the sample from which data are drawn. Findings about the TVRP effects are only relevant to classes which are like those in the evaluation sample. A broad range of sample characteristics provides data which are more generalizeable because the sample classes have something in common with many classes outside the sample. In selecting the sites to participate in this research, Capital Cities and CERE attempted to guarantee as much representativeness as possible.

Teachers and school districts were asked to provide demographic and instructional context information by completing questionnaires or transferring data from internal records to CERE.

The traditional demographic statistics of minority proportions and economic status (based on the number of free lunches given) vary among the six sites from 19% in Pinellas County to 100% in Bullhead City. Among the classes who chose to use the materials, 15% to 65% of the classes were from minority groups. Pinellas County had the fewest minority students, while Chicago had the largest number. None of the schools participating in the research were financially well off.

More males than females used these materials in every site. Males typically have greater reading problems than females so this may be an indication

that the teachers who were interested in using the materials were faced with some special instructional challenges.

Very few of the teachers who participated in the evaluation would be described as inexperienced as the average number of teaching years was nine. The site average varied from two years at Bullhead City to fourteen years at Minneapolis. Bullhead City teachers were quite unusual in this respect. All other sites were similar to Minneapolis. Given the volunteer status of the sample classes, experienced teachers (who have been exposed to a variety of learning materials) seem to see a special value in the TVRP.

The instructional context variables include class size, class structure (self-contained to open), ability grouping and reading level. The average number of students per class was 27, the same as the national average. Only minor variability was observed, both among sites and between grade levels. The teacher who teaches the average size class should find the TVRP compatible with other forms of instruction used with groups of 27 students.

Most classes were labeled "self-contained," although all sites reported a sizeable number of "open" and "modified open" classrooms. The TVRP materials are therefore considered useful for all types of instructional settings.

Most classes were heterogeneously grouped, although a large number of homogeneously grouped intermediate classes participated in the evaluation in Minneapolis and Pinellas County.

The reading ability (based on the percentage of students at or above grade level) was generally higher for intermediate classes than for junior high classes. Site differences also existed. Only 15% of the Pinellas County intermediate students read below grade level, while 65% of the Dallas

students were below grade level. While most of the students in the sample were faced with reading deficits, class reading ability does not seem to influence the teacher's interest in using the TVRP materials. The teachers who volunteered to use the materials had good and poor readers.

The TVRP materials are characterized by rather modest readability levels (grades three and five, Fry estimate). The exercises emphasize word meaning and word structure over larger units of meaning such as sentences and paragraphs. Further, they emphasize less complex cognitive skills, such as recall and interpretation, more than complex skills such as translation and inference. A large variety of exercises (17) are available for teacher use.

Effects of the TVRP on Reading Achievement

Of pivotal interest is the effect of TVRP use on reading achievement. Preliminary findings on this question, provided by Phase I research, suggested that classes using the TVRP obtained higher scores on tests which focused on particular skill areas. Because sample sizes were small, the findings were ambiguous. The current research, based on samples of adequate size, provides unequivocal data on achievement effects.

Both norm-referenced and objective-referenced test scores were examined, comparing TVRP and Non-TVRP performance. All six sites provided the norm-referenced data. Only Minneapolis and Chicago administered the objective-referenced test to participating classes. The major difference between these two types of tests is the breadth of skill coverage. Norm-referenced tests cover a much broader range of skills than objective-referenced tests. The latter are designed to fit the focus of instruction more precisely. In this case, only the six specific objectives inferred from analysis of the TVRP materials were tested.

Both Minneapolis and Chicago objective-referenced test scores were significantly higher for the TVRP classes than they were for the Non-TVRP classes. This difference was obtained on seven of nine subtests as well as on the total score.

Norm-referenced test scores were not different for the TVRP and Non-TVRP classes in any of the six sites, except Chicago, before the use of the TVRP nor did they differ after the materials were used. The significant differences favoring the Chicago Non-TVRP group on the posttest were largely accounted for by the pretest differences. In other words, the TVRP had no measurable effect on Chicago norm-referenced test scores.

Because the objective-referenced test was directly related to instructional objectives it has face validity and total score reliabilities are sufficiently high to encourage faith in the test results. Because the pretest differences in Chicago favored the Non-TVRP classes, the higher TVRP scores on the objective-referenced test appear even stronger.

One can conclude that there is clearly an instructional effect connected with the TVRP. This is especially noteworthy since the Non-TVRP classes were probably receiving some instruction in the six specific skill areas during the school year. Also important is the fact that teachers reported minimal use of the inference exercises accompanying the scripts and the inference subscale scores were the only ones for which the TVRP advantage did not appear.

Effects of the TVRP on Classroom Behavior

Classroom behavior was examined from two different perspectives by both asking teachers to respond to a questionnaire and by actually observing lessons and coding the events taking place. The issue is whether or not the TVRP materials are associated with activities which enhance learning. For

this study a list of such activities was derived from literature reporting significant correlations (positive or negative) between some observed behaviors and achievement. The popularity and familiarity of the script materials suggested that students should be more attentive, less disruptive and make fewer errors when the TVRP materials are in use. The questionnaires asked teachers to give quantitative estimates of the target activities for both the ordinary instructional materials (early in the year) and the TVRP materials (later in the year). The observations developed scores for similar activities based on codings for teacher-student interactions. If the anticipated desired effects were occurring, teachers should give higher marks when responding to the questionnaire about the TVRP materials, and observers should see more of the desirable behavior (and less of the undesirable behavior) when observing TVRP lessons than when observing other types of reading instruction.

Questionnaire scores did not indicate that teachers saw a TVRP effect on classroom behavior except when considering the high enthusiasm students had for the materials. Non-TVRP teachers also reported increased enthusiasm over the same interval, which casts doubt on the single result which favors the TVRP. Inconsistent results were obtained from Chicago teachers. These data did not show the TVRP effect in enthusiasm which was obtained in other sites. However, the questionnaires were also returned at a rate lower than the 70% deemed necessary for valid findings.

The observations carried out in Minneapolis sixth grades indicates that a number of positive activities occur at a greater rate in TVRP classes and several negative activities occur at a lower rate. In particular, the TVRP classes read aloud more, initiated more interactions with the teacher,

received more social comments and praise from the teacher, and were involved directly in reading for a greater portion of the lesson, all of which are positively associated with achievement. On the other hand, Non-TVRP teachers corrected their students more, spent less time interacting with students and more time organizing the lesson than TVRP teachers. All these events are negatively related to achievement. Disciplinary action by the teachers did not occur often in either group.

Neither the questionnaire data nor the observation data are completely unassailable. The questionnaire data may not be valid. That is, teachers may not be reporting what is actually taking place. The observation data may not be reliable. It varies dramatically from one occasion to the next. The observation results indicate that teachers should have reported more volunteering among the students, more information added to answers, fewer reading errors and significantly more time spent reading aloud and discussing the TVRP materials on the Reading Questionnaire. However, the Reading Questionnaire results do not show this picture. Perhaps the TVRP teachers are insensitive to what happens during reading lessons as other studies have indicated, or the observed classes may be unique in some way. In either case, the teachers themselves did not report the same patterns via the Reading Questionnaire which the observers found.

The observation data are based on a small number of classes but the findings appear to be highly supportive of the TVRP. Given the high variability of teacher behaviors across time, these results are probably tentative until further observations can be obtained on larger samples.

Teacher Opinion of Program Materials

Questionnaires distributed to TVRP teachers three times during the year asked for information about student response to the materials and the way in which the script and exercises were used. In general the first script (from a Spiderman program) was seen as less interesting and less valuable than either of the other two scripts (Happy Days and Mork and Mindy). All three scripts were read and discussed by a majority of the classes and a very high proportion of teachers reported that the script materials were both appropriate and appealing to their students. Of the seventeen exercises available for teachers to use, most teachers chose those dealing with word meaning (particularly use of context clues) and word structure (synonyms and/or antonyms) rather than exercises in classification, drawing inference and drawing conclusions. The more complex comprehension exercises were not heavily utilized, but teachers did feel a need for more analogy exercises, which are complex.

The most frequently cited objections to the materials were difficult vocabulary, late script arrival, and limited class time. Some teachers said that they prefer half-hour scripts and fewer than nine scripts per year.

Teachers were asked if they wished to continue using the materials in the future. Of those who answered the question, 85% answered "yes," 12% answered "no," and 3% were unsure. This reflects a fairly strong program appeal and seems to forecast a substantial impact on the selection of educational materials in sites similar to those participating in this study.

## Discussion

The research findings described above are important for a number of reasons which differ for various groups. Capital Cities Communications, Inc.

may choose to use these results to identify the strengths and weaknesses of the TVRP and to specify the areas which would benefit from additional developmental work. These results will also be of value to potential consumers as the data define instructional effects which can be expected to accompany the use of the program materials.

Salient Findings for Capital Cities

It is anticipated that the Television Reading Program materials will be marketed throughout the United States. It was therefore important to base the evaluation research on as broad a sample as possible. The schools which participated in the research can be considered geographically representative, ethnically representative, and economically representative (at least for low and middle income students). Therefore the questionnaire, observation and test data can be considered a fair index of the expected results in other geographic areas and with other groups of similar ethnic proportions and economic levels.

The teachers who participated in the study had varying levels of experience, wide ranges of reading levels represented among their students, and they organized their classes in a variety of ways. This sample can then be expected to generalize to most other classes, except perhaps to those students of high reading ability. The TVRP materials were chosen by both inexperienced and experienced teachers teaching in classrooms that ranged from self-contained, to semi-open, to open. It can be reasonably assumed that the materials will be attractive to most teachers.

Noticeably missing from the sample classes were groups of high ability and privileged economic status. For purposes of comparison with the TVRP sites,

the State College Area Schools provide free or reduced rate lunches for only 10% of their students and only 11.7% of the students in grades one to seven are one year or more below grade level in reading. State College students are considered above average in ability and economic status but the families would not be described as wealthy. It is not an extraordinarly advantaged school system. None of the TVRP sample sites have students as able or as affluent as the State College students, so it must be noted that a certain segment of the educational population is not represented in the sample data.

It was also noted that more of the junior high students than intermediate students were reading below grade level. A cumulative deficit may be operating here such that progress made at a slower pace may leave a student farther behind each year. This means that the performance of the same group of students progressively declines as time goes on and the grade level ability difference observed in this study may be an artifact. In any event, most of the junior high students participating in this research were disadvantaged readers. This fact should be kept in mind in interpreting grade level differences found in other data, such as the lower use of exercises reported by junior high teachers.

Achievement test results give conflicting information about the effect of program use on reading skill. No TVRP effects were observed in the norm-referenced test data while TVRP classes scored significantly higher on the objective-referenced test.

The most likely explanation for this discrepancy is that the norm-referenced tests measure a much wider range of reading achievement skills than those found in the TVRP. In that sense, they are not precise measures of the true objectives of the TVRP.

Measurement experts have argued that because norm-referenced tests are designed to discriminate among students and objective-referenced tests discriminate among objectives, the former are not appropriate measures of instructional effects. Perhaps this argument has some bearing on the discrepancy between the two types of test scores used in this evaluation.

The explanation of why the TVRP works on a measure of its six objectives is not clear. The effect may be compensatory in that the objectives of the TVRP compensate for weaknesses (e.g., missing objectives) in the existing instruction. It may be remedial by succeeding in teaching those six objectives more effectively than the existing instruction. It could also be that the quality of instruction in TVRP is outstanding by comparison (e.g., more interactions occur between teacher and student). Without a valid listing of objectives and activities of the existing instruction and a set of objectives addressed in the norm-referenced tests used, this issue is unanswerable except by speculation.

The observation data give support for positive TVRP effects on instructional events. A number of behaviors positively associated with achievement occurred more frequently in TVRP classes while several negative behaviors occurred less frequently. In particular, the teachers and students spend more time on task when using these materials and the teachers are more sociable with the students. The students have a store of information related to the scripts which they use freely; they clearly enjoy these materials, judging by the incidence of laughter reported during the screening phase of data collection. If these findings are replicated with larger samples, and if valid teacher questionnaires confirm the findings, the TVRP materials will be considered a significant curriculum contribution. The returned Program Questionnaires

indicate that the scripts were read and discussed by nearly all classes receiving them and nearly all teachers considered the materials of appropriate interest and reading level for their students. Given the third grade reading level estimates of two of the scripts, it seems reasonable to assume that most intermediate and junior high students could read the materials comfortably.

The content analysis of the script exercises indicates that the skill and content coverage are narrow but well defined. Since the objective-referenced test scores reflect the availability and teacher use of skill exercises, an expansion of the scope of the skill building exercises should lead indirectly to improved test scores. If the exercises are keyed to the norm-referenced tests, perhaps norm-referenced scores will improve.

It is interesting to speculate about the reason that teachers used some types of exercises rather than others. As noted previously, the exercises used most heavily were the ones most frequently provided in the script booklets. A positive relationship between the availability of exercises and their use is logically consistent. However, it is also true that the exercises used most frequently are simple to answer and to score, and students should be more capable of coping with them independently, making it easier for teachers to monitor completion. In addition, it was noted by the evaluators that vocabulary exercises always precede comprehension exercises in the booklets. If teachers lack time to complete all available activities, they will probably omit the last ones rather than the first ones. It is possible that the use of various types of exercises depends heavily on their arrangement in the booklets. One can also speculate that teachers are implementing a back-to-basics philosophy for their lower reading ability students.

A strongly positive statistic arising from the Program Questionnaire data is the number of teachers who want to continue using the TVRP materials. If 85% of the teachers find them attractive enough to use again, there is the potential for a sizeable impact in the curriculum field.

The space on the Program Questionnaire which was available for teacher comments was used liberally by the teachers. Most teachers experienced no problems with TVRP materials. Those who experienced difficulties most often complained that there was too little time to complete the activities, either because the materials were delivered too late or because the scheduled instruction activities took precedence over the TVRP. Other problems mentioned include inaccuracy in exercises and demanding reading level particularly for the Spiderman script. Many teachers noted a preference for thirty minute scripts rather than longer programs although interviews with teachers indicated strongly favorable reaction to A Woman Called Moses.

Salient Findings for Prospective Adopters

School system administrators considering the use of the TVRP will be able to use a number of the research findings when making a decision about the program.

Use of the TVRP enhances learning in specific skill areas when an objective-referenced test is used as the criterion measure. No such effects can be anticipated if assessment consists of norm-referenced test scores. The number of skills addressed by the TVRP materials is limited, but the exercises involving simpler reading skills were used heavily by participating teachers which probably contributed to the instructional effects mentioned above. The exercises are useful and attractive and lead to high utilization.

The reading level estimates of the scripts are low enough that most intermediate and junior high students can cope comfortably with the materials. The results of classroom observation suggest that the learning atmosphere is much warmer and information is exchanged at a higher rate when the TVRP materials are being used. More time is spent actively engaged with the lesson materials as well. However, these findings must be replicated before they are considered firm.

Teachers from a wide variety of ethnic, economic, and instructional circumstances used and liked the program materials. A large majority of the teachers sampled considered the scripts appropriate and appealing. The strongest endorsement of the program value is the number of teachers who wish to continue using the materials (85%). The only groups for whom the materials may not serve a need are the very able readers or the economically advantaged groups. None of the evaluation data are appropriate to these groups so no inferences can be made.

The major objections to the program are late delivery of script materials and lack of time to complete suggested activities and inaccurate exercises. As supplementary instruction, the TVRP must follow the primary curriculum in importance and teachers report that the time commitment needed to complete the reading, discussion and skill exercises is too great. These complaints have appeared during both years of evaluation work so it is logical to assume that they will be continuing problems, although they do not appear to be serious enough to convince the teachers to discontinue use of the program. The freedom to be selective regarding activities may be quite useful to tailor the materials to individual classes.

## Research Limitations

Although this evaluation study was designed around preferred sampling techniques, there are some limitations to the research findings arising from sample and data characteristics. For example if all questionnaires are not returned, it is not possible to estimate what the response would be on unreturned questionnaires. A minimum of 70% return rate was specified in the proposal and was adhered to by all sites except one so the representativeness of the responding teachers can be considered high. However, many teachers who felt unfavorably toward the program may have withdrawn before the year was over; a small amount of positive bias may still exist in the data which were received.

The achievement effects which were obtained are generalizable to a limited number of reading skills and no unqualified general claims can be made about TVRP effects on reading achievement. Also, because random assignment to TVRP and Non-TVRP groups was carried out in only two sites, comparative data from other sites must be interpreted with some caution.

Although the pretest norm-referenced data showed no differences between the TVRP and Non-TVRP groups, the correlation between these tests and the objective-referenced test is not perfect. A "pure" test of achievement effects would involve both a pretest and a posttest on the objective-referenced test. There is no evidence in the descriptive or achievement data that TVRP-Non-TVRP differences existed before the program was introduced, but parallel pre-post measures would increase certainty about the nature of the TVRP impact.

A final limitation which should be mentioned applies to the demographic data. Each site provided somewhat different data. Much of these data were based on general information provided by the teachers who may or may not have

referred to actual figures to answer our questions. Some data reflected the conditions of a class of students, other data applied to schools, and there were still other cases in which statistics reflected entire school systems. This prevented a meaningful comparison across sites as well as the assessment of the contribution of demographic characteristics to other data (e.g.,choice to use the program again, withdrawing from the project).

None of these limitations affects the conclusions as they are stated in other sections of this report. Departures from the research plan and obstacles to additional analyses should be noted when summarizing research.

## Recommendations

Based on the evaluation research results some changes in the TVRP are considered desirable. Recommendations are specific to the materials themselves, distribution procedures, and continued evaluation.

### Materials

Errors in printing and exercise development should be eliminated through careful proofreading and checking. This would remove a major source of annoyance to teachers.

A useful addition to the TVRP would be teacher-administered pre- and posttests for use in September and June, which would assess progress on skills emphasized during the intervening nine months. The knowledge that such a test would be used should encourage completion of the available exercises each month.

The exercise content analysis presented earlier in this research can serve as a guide for defining the content and process distribution of exercises

prepared for future scripts. Some additional emphasis should be placed on more complex skills. The order in which vocabulary and comprehension exercises are presented should vary from script to script to insure that every skill receives practice even if the teacher does not have enough time to complete all the exercises.

Once the content-process distribution of the exercises has been specified, the relationship or fit between the TVRP materials and other reading instruction materials such as the Houghton-Mifflin or Scott-Foresman series should be determined. The same procedure can be carried out for the major tests of reading ability. The product of such an analysis would be the number of TVRP objectives which are represented in each text series or test, and the relative emphasis given to each (e.g., the number of items per objective). Such a study would enable teachers who are using the materials to clearly understand when the TVRP will reemphasize some skill receiving attention in the core instruction, or to see what the TVRP provides that is not found in the standard materials. The test-mapping information would allow the teacher to anticipate the exact areas which would be most sensitive to TVRP instruction.

Teachers should receive some guidance in using the materials before introduction for classroom use. This could be provided by training sessions carried out in each district by teachers who are experienced in use of the TVRP, or by providing video tapes which demonstrate effective and ineffective use of the TVRP materials. Such an orientation would maximize utilization from the beginning of the year.

Finally, by incorporating classroom teacher judgments in script selection. Capital Cities may be able to avoid choosing programs of limited

instructional applicability. Some attention should be paid to the desired readability level as well. Phase I evaluation results found few complaints among teachers that the materials were too difficult to read in spite of the fact that the readability grade level estimate for three scripts was grade six.

Distribution

Late arrival is a major complaint among program users. Capital Cities should investigate a number of alternatives for distributing materials. The evaluators found that indirect distribution (through central offices in school districts to buildings and then to teachers) helped avoid errors as the distribution process was monitored by administrative personnel. Direct mail to schools was more likely to be lost or late.

Research

Additional research is recommended which would clarify some unexplained results and further define the effects of the TVRP.

Differences in program use at the intermediate and junior high grades should be explored in more detail. Interviews and observations of junior high teachers should be used to determine if the TVRP materials are primarily appropriate for poor readers and if the lower reported usage of the materials is related to the demands characteristic of junior high instruction or to the utility of the materials themselves.

The observation activities conducted in this research should be replicated with larger numbers of teachers for several consecutive days in a site which is easily accessible.

Achievement, observation and program use data should also be gathered in classes not represented in the current sample such as high-ability advantaged students, special education and remedial classes, and adult education groups.

The question of why the TVRP is capable of enabling students to reach certain reading objectives is not a trivial issue and should be addressed. Does it work because the popular materials format (prime time youth-oriented, TV programs) interests and motivates the students, which in turn somehow results in enhanced learning? Is it because the instructional activities are highly appropriate to learning (e.g., match with cognitive styles of the students)? Would other media such as newspapers work as well? Or is it simply that efficient instruction results from the narrow focus (six objectives) of the TVRP as opposed the greater number of reading objectives addressed in other instructional programs?

A final note: the urgency to market an educational product and the need to understand what that product does and does not do are clearly in conflict. The education market contains an appalling flood of inappropriate materials for sale which are placed on the market before instructional utility is determined. Capital Cities is to be highly commended for investing heavily in formative and evaluative research on the TVRP and for insisting on having a solid foundation for any claims to be made in the future about the TVRP.

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